DVD Player

DVP3880K(X)

DVP3880K/55
DVP3880K/79/98
DVP3880K/93
DVP3880KX/77

Service

Service

Service

First Generation

Service Manual

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This service manual is for DVP3880K first generation model, which is different from the second generation DVP3880K model.

For first generation model, the serial number begins with KX 1Axxxxxxxxxx

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CLASS 1 LASER PRODUCT

Published by LLL - 1203 BU AVM Printed in The Netherlands Subject to modification

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Version 1.3

PHILIPS

Specifications For DVP3880K/55

Note

- Specifications are subject to change without notice

DVD region code	Countries
	Latin America

Playable media

- **Disc**
  - DVD, DVD-Video, VCD, SVCD, Audio CD
  - DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL (Dual Layer), CD-R/-RW (Maximum number of files: 648)
- **File**
  - Video: .avi, .divx, .mp4, .xvid
  - Audio: .mp3, .wma
  - Picture: .jpg, .jpeg
- **USB storage device**
  - Compatibility: Hi-Speed USB (2.0)
  - Class support: MSC (Mass Storage Class)
  - File system: FAT16, FAT32
  - Maximum number of albums/folders: 300
  - Maximum number of tracks/titles: 648

Video

- Signal system: PAL, NTSC
- Composite video output: 1 Vp-p (75 Ohm)
- Component video output: 0.7 Vp-p (75 Ohm)
- HDMI output: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p

Audio

- 2-channel analog output
  - AUDIO OUT L&R : 2 Vrms (47k Ohm)
- Digital output: 0.5 Vp-p (75 Ohm)
  - Coaxial
- HDMI output
- Sampling frequency:
  - MP3: 8 kHz, 11 kHz, 12 kHz, 16 kHz, 22 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
  - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
  - MP3: 8 kbps - 320 kbps
  - WMA: 64 kbps - 192 kbps

Main unit

- Dimensions (W x H x D): 360 x 42 x 209 (mm)
- Net Weight: 1.33 kg

Power

- Power supply rating: 110–240 V~, 50/60 Hz
- Power consumption: < 8 W
- Power consumption in standby mode: < 0.3 W

Accessories supplied

- Remote control and one battery
- Power cord
- Power plug adaptor
- HDMI cable
- Audio/Video cables
- User Manual

Laser specification

- Type: Semiconductor laser InGaAlP (DVD), AlGaAs (CD)
- Wave length: 658 nm (DVD), 790 nm (CD)
- Output Power: 7.0 mW (DVD), 10.0 mW (VCD/CD)
- Beam divergence: 60 degrees

Specifications For DVP3880K/98/79

Note

- Specifications are subject to change without notice

DVD region code	Countries
	Asia Pacific, Taiwan, Korea

Playable media

- Disc
  - DVD, DVD-Video, VCD, SVCD, Audio CD
  - DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL (Dual Layer), CD-R/-RW (Maximum number of files: 648)
- File
  - Video: .avi, .divx, .mp4, .xvid
  - Audio: .mp3, .wma
  - Picture: .jpg, .jpeg
- USB storage device
  - Compatibility: Hi-Speed USB (2.0)
  - Class support: MSC (Mass Storage Class)
  - File system: FAT16, FAT32
  - Maximum number of albums/folders: 300
  - Maximum number of tracks/titles: 648

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- Composite video output: 1 Vp-p (75 ohm)
- Component video output: 0.7 Vp-p (75 ohm)
- HDMI output: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p

Audio

- 2-channel analog output
  - AUDIO OUT L&R : 2 Vrms, 22 kohm
- Digital output: 0.5 Vp-p (75 ohm)
  - Coaxial
- HDMI output
- Sampling frequency:
  - MP3: 8 kHz, 11 kHz, 12 kHz, 16 kHz, 22 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
  - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
  - MP3: 8 kbps - 320 kbps
  - WMA: 64 kbps - 192 kbps

Main unit

- Dimensions (W x H x D): 360 x 42 x 209 (mm)
- Net Weight: 1.31 kg

Power

- Power supply rating: 110V- 240V~; 50- 60Hz
- Power consumption: < 10 W
- Power consumption in standby mode: < 0.4 W

Accessories supplied

- Remote control and one battery
- Audio/Video cables
- User Manual

Laser specification

- Type: Semiconductor laser InGaAlP (DVD), AlGaAs (CD)
- Wave length: 658 nm (DVD), 790 nm (CD)
- Output Power: 7.0 mW (DVD), 10.0 mW (VCD/CD)
- Beam divergence: 60 degrees

Specifications For DVP3880K/93

Note

- Specifications are subject to change without notice

DVD region code	Countries
	China

Playable media

- Disc
  - DVD, DVD-Video, VCD, SVCD, Audio CD
  - DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL (Dual Layer), CD-R/-RW (Maximum number of files: 648)
- File
  - Video: .avi, .divx, .mp4, .xvid
  - Audio: .mp3, .wma
  - Picture: .jpg, .jpeg
- USB storage device
  - Compatibility: Hi-Speed USB (2.0)
  - Class support: MSC (Mass Storage Class)
  - File system: FAT16, FAT32
  - Maximum number of albums/folders: 300
  - Maximum number of tracks/titles: 648

Video

- Signal system: PAL, NTSC
- Composite video output: 1 Vp-p (75 ohm)
- Component video output: 0.7 Vp-p (75 ohm)
- HDMI output: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p

Audio

- 2-channel analog output
    - AUDIO OUT L&R : 2 Vrms, 22 kohm
- Digital output: 0.5 Vp-p (75 ohm)
    - Coaxial
- HDMI output
- Sampling frequency:
    - MP3: 8 kHz, 11 kHz, 12 kHz, 16 kHz, 22 kHz, 24 kHz, 32 kHz, 44.1 kHz, 48 kHz
    - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
    - MP3: 8 kbps - 320 kbps
    - WMA: 64 kbps - 192 kbps

Main unit

- Dimensions (W x H x D): 360 x 42 x 209 (mm)
- Net Weight: 1.31 kg

Power

- Power supply rating: 110V- 240V~; 50- 60Hz
- Power consumption: < 10 W
- Power consumption in standby mode: < 0.4 W

Accessories supplied

- Remote control and one battery
- Audio/Video cables
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Laser specification

- Type: Semiconductor laser InGaAlP (DVD), AlGaAs (CD)
- Wave length: 658 nm (DVD), 790 nm (CD)
- Output Power: 7.0 mW (DVD), 10.0 mW (VCD/CD)
- Beam divergence: 60 degrees

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

. Connect the unit to the mains via an isolation transformer.

. Replace safety components indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

. Route the wires/cables correctly, and fix them with the mounted cable clamps.

. Check the insulation of the mains lead for external damage.

. Check the electrical DC resistance between the mains plug and the secondary side:

1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2) Set the mains switch the "on" position (keep the mains cord unplug).
3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4) Repair or correct unit when the resistance measurement is less than 1MΩ.
5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type : Semiconductor laser GaAlAs

Wavelength : 650nm (DVD)

: 780nm (VCD/CD)

Output power : 7mW (DVD)

: 10mW (DVD /CD)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply , including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is “off”!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A “lighting stroke” and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is “on”.

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handing should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Service Hints

CAUTION

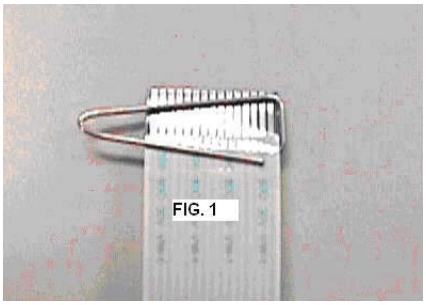
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE.THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- **SWITCH OFF POWER SUPPLY**
- **ESD PROTECTION**

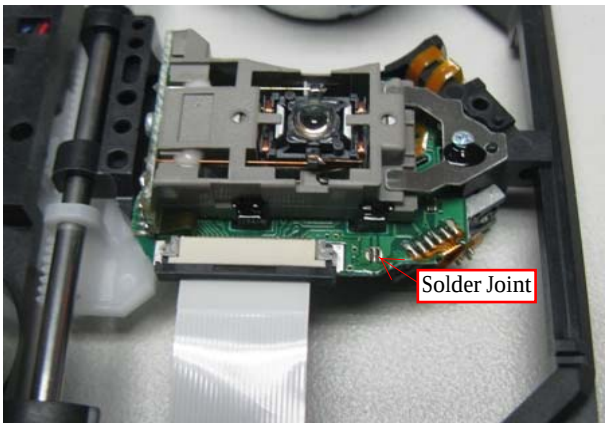
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the defective loader :

1. Dismantling of the loader to access the ESD protection point if necessary.
2. **Solder the ESD protection point*.**
3. Disconnect flexfoil cable from the defective loader.
4. Put a paper clip on the flexfoil to short-circuit the contacts (fig.1)
5. Replace the defective loader with a new loader.
6. Remove paperclip from the flexfoil and connect it to the new loader.
7. Remove solder joint on the ESD protection point.



ATTENTION: The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.



(ESD protection point is accessible from top of loader)

Only applicable for defective loader needed to be sent back to supplier for failure analysis and to support backcharging evidence.
This is also applicable for all partnership workshops.

Notes

Lead-Free requirement for service

INDENTIFICATION:

Regardless of special logo (not always indicated) Pb

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - To reach at least a solder-temperature of 400°C,
  - To stabilize the adjusted temperature at the solder-tip
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed
  solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the
  solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:
  www.atyourservice.ce.Philips.com

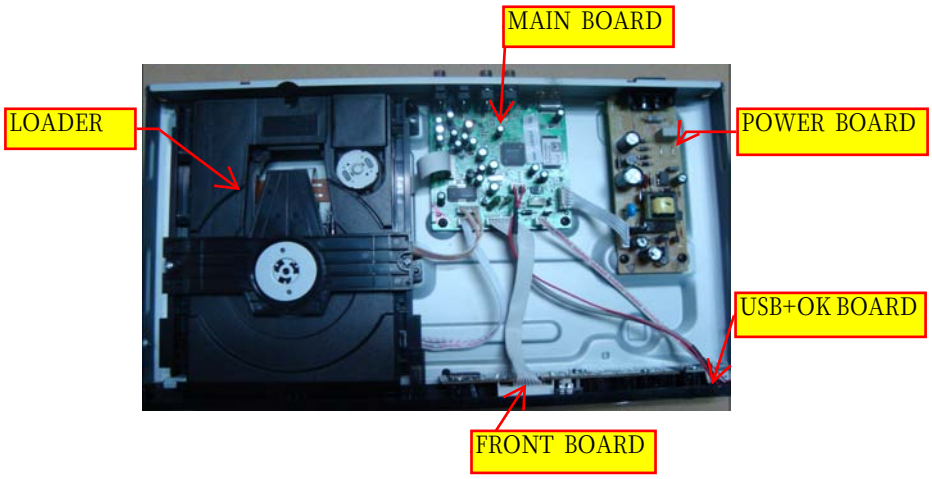
You find more information to:

BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

PCB LOCATION



VERSION VARIATIONS

Type/Versions / Board in used	DVP3880				
	K/55	KX/77	KX/78	K/93	K/98
Main Board	C/M	C/M	C/M	C/M	C/M
Front Control Board	C/M	C/M	C/M	C/M	C/M
Power Board	C/M	C/M	C/M	C/M	C/M
Karaoke+USB Board	M	M	M	M	M

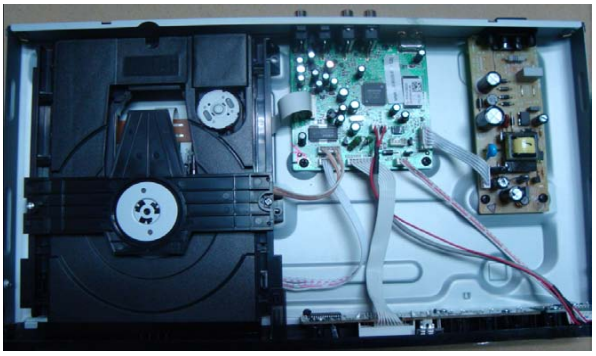
*C:Component Level Repair
*M:Module Level Repair
*X:Used

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.
Step1: Remove 5 screws around the Top Cover, and then remove the Top Cover (Figure 1).



The sample is DVP3880K/98.

Figure 1

Step2: If it is necessary to dismantle Loader or Front Panel, the Front door should be removed first. (Figure 2)
Note: Make sure to operate gently otherwise the guider would be damaged.

Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door.

Figure 2

Mechanical and Dismantling Instructions

Dismantling Instruction Detailed information please refer to the model set.

Step3: If the tray can't open in normal way, you can make it through the instruction as below (Figure 3).
Note: Make sure to operate gently otherwise the guider would be damaged.

Figure 3

Step4: Dismantling Front Panel, disconnect the connectors (XP5, XP6,XP7), need release 4 snaps of Front Panel & 2 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 4 - Figure 6)

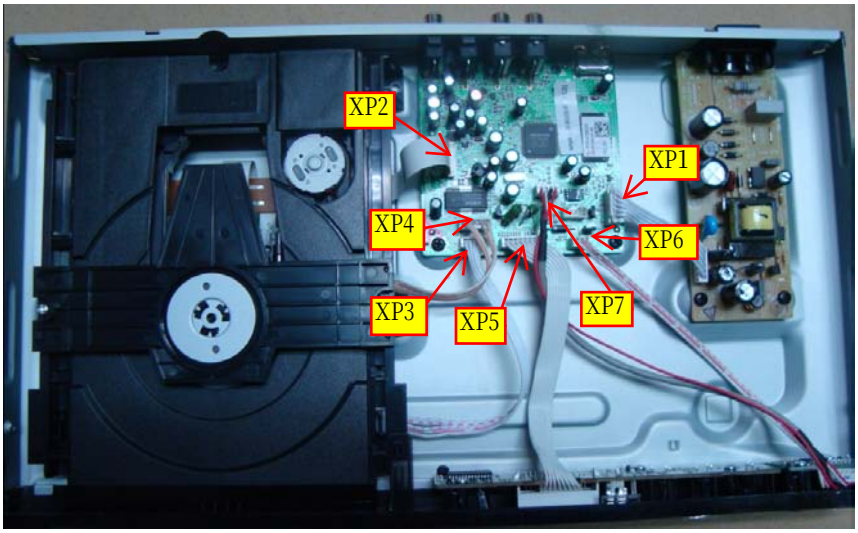


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step5: Dismantling Loader, disconnect the 3 connectors (XP2, XP3, XP4) aiming in the below figure, and remove 1 screw that connects the loader and the bottom cabinet. (Figure 5)

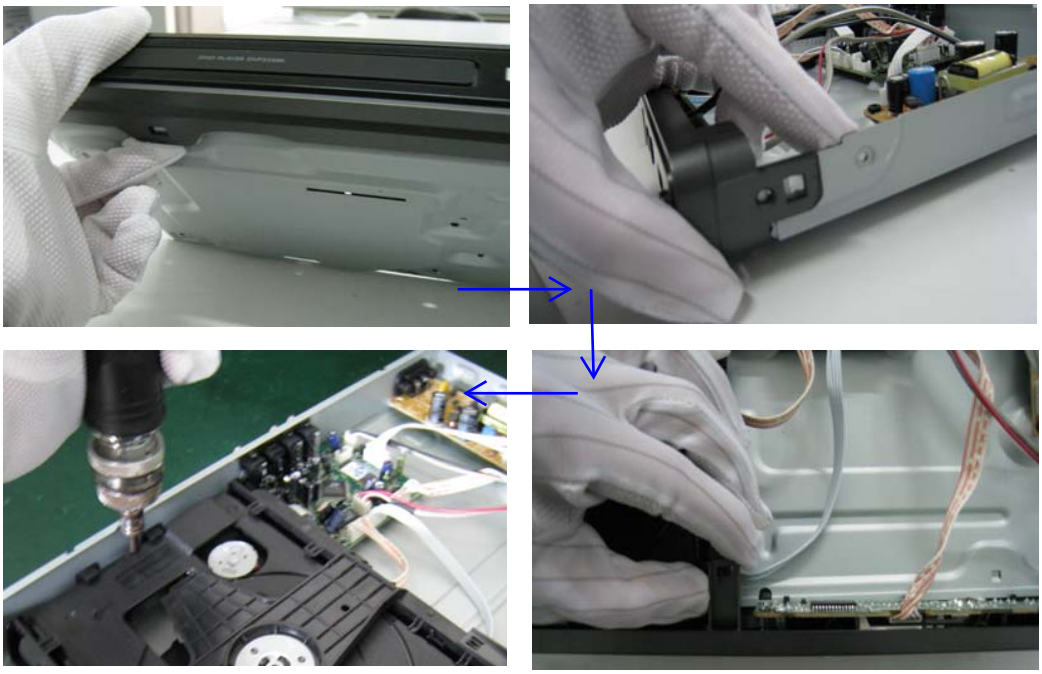


Figure 5

Step6: Dismantling Main Board, first disconnect the connector (XP1), and then remove 5 screws. (Figure 6)

Step7: Remove the 4 screws on Power Board to dismantle the Power Board. (Figure 6)

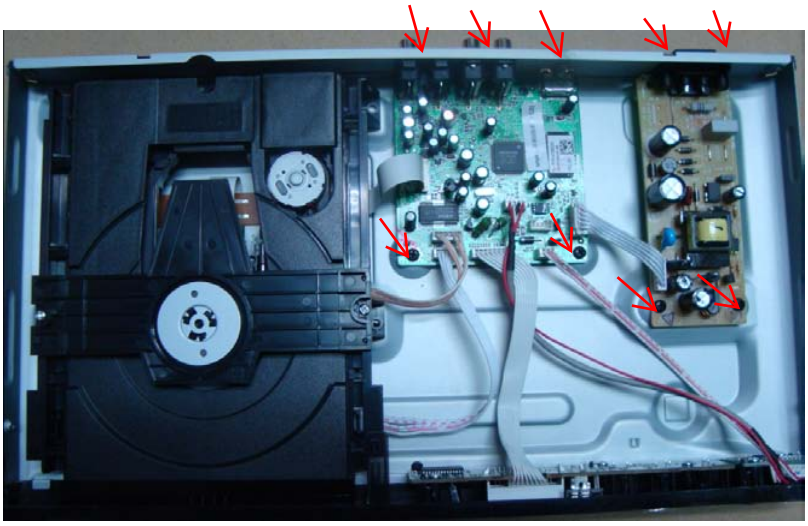


Figure 6

Software upgrade

Preparation to upgrade software

1) Start the CD Burning software and create a new CD project (Data Disc) with the following setting:

Label: DVP3XXX (No need the label name)

File Name: DVPXXXX_XX.BIN

Power on the set and open the tray, then press <option> to check the File Name.

Note: It is required capital letter for the File System name.

2) Burn the data onto a blank CDR

A. Procedure for software upgrade:

1) Power on the set and insert the prepared Upgrade CDR.

2) The set will starts reading disc & response with the following display TV screen:

Upgrade File DETECTED

Upgrade?

Press Play TO START.

3) Press <OK> button to confirm, then screen will display :

Files coping…

UPGRADING…

4) The upgraded tray will automatically open when files coping complete, then take out the disc.

5) About 1 minute later, the trace will automatically close when upgrading complete.

B. Read out the software versions to confirm upgrading

1) Power on the set and press <Setup> button on the remote control.

2) Press <Next><Next><Prev><Prev> button.

The software version and other information are display on the TV screen as follows:

Version XX.XX.XX.XX (Main version)

SUB-VER XX.XX.XX.XX (software version of application software)

8032 XX.XX.XX.XX

Servo XX.XX.XX.XX (software version of servo)

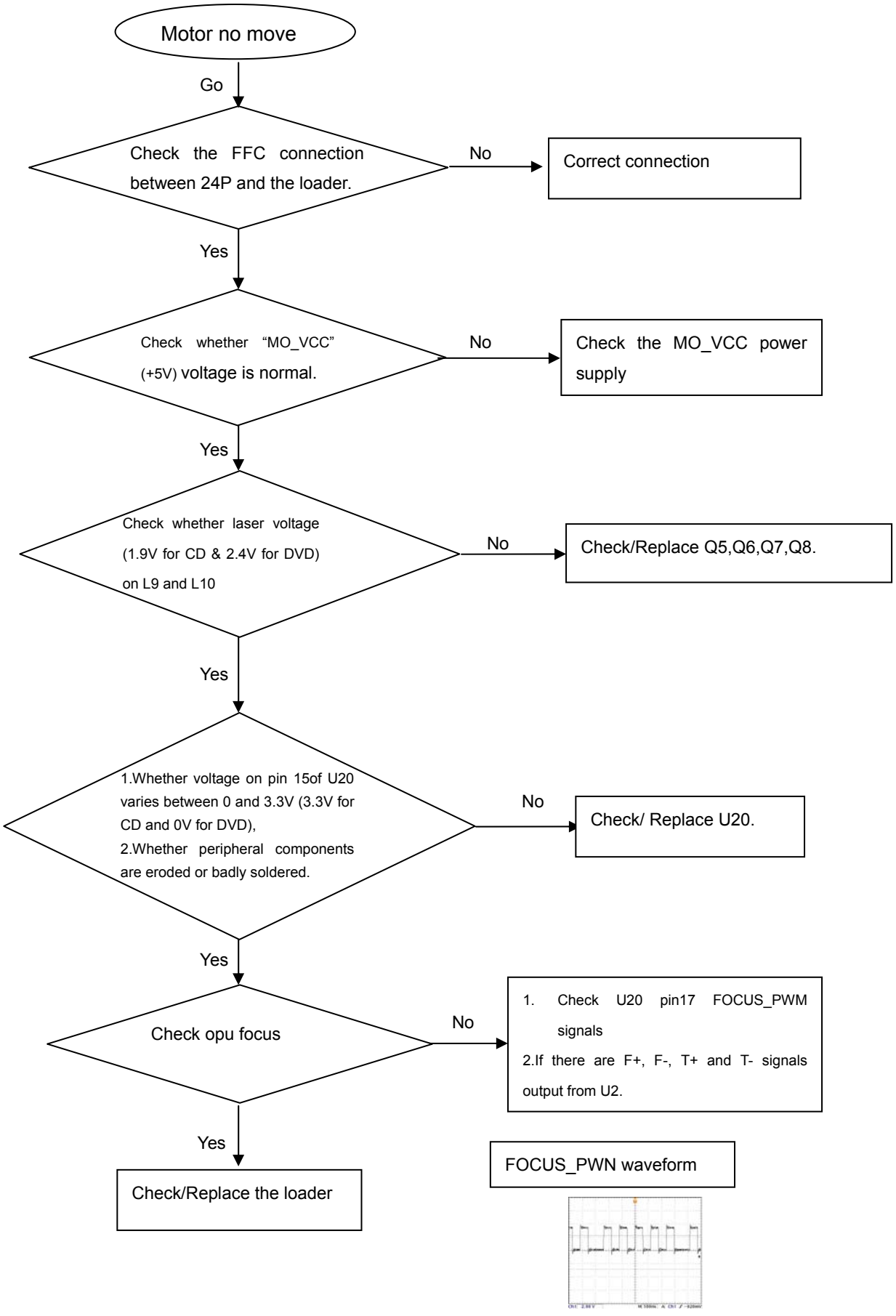
RIS XX.XX.XX.XX

DSP XX.XX.XX.XX

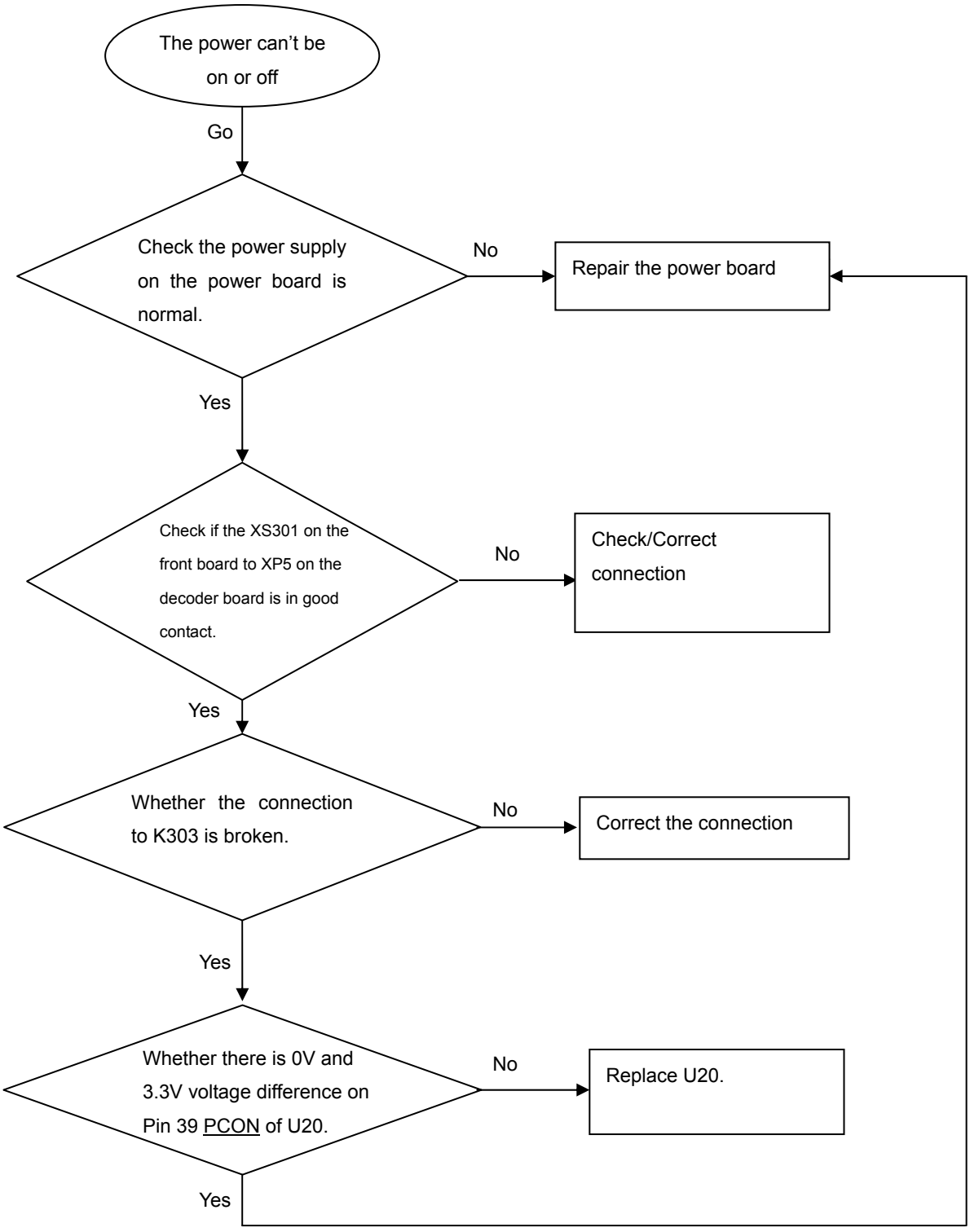
Region Code X

Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

Spindle motor does not move


Motor no move
Go
Check the FFC connection between 24P and the loader.
No
Correct connection
Yes
Check whether "MO_VCC" (+5V) voltage is normal.
No
Check the MO_VCC power supply
Yes
Check whether laser voltage (1.9V for CD & 2.4V for DVD) on L9 and L10
No
Check/Replace Q5,Q6,Q7,Q8.
Yes
1.Whether voltage on pin 15of U20 varies between 0 and 3.3V (3.3V for CD and 0V for DVD),
2.Whether peripheral components are eroded or badly soldered.
No
Check/ Replace U20.
Yes
Check opu focus
No
1. Check U20 pin17 FOCUS_PWM signals
2.If there are F+, F-, T+ and T- signals output from U2.
Yes
Check/Replace the loader
FOCUS_PWN waveform

The power can not be on or off


The power can't be on or off
Go
Check the power supply on the power board is normal.
No
Repair the power board
Yes
Check if the XS301 on the front board to XP5 on the decoder board is in good contact.
No
Check/Correct connection
Yes
Whether the connection to K303 is broken.
No
Correct the connection
Yes
Whether there is 0V and 3.3V voltage difference on Pin 39 PCON of U20.
No
Replace U20.
Yes

All output voltages on the power board is 0V or deviated.

All output voltages on the power board is 0V or deviated

Yes

Check whether F1 is blown

Yes → Replace F1

No

Check whether there is 300V on C1 or C2.

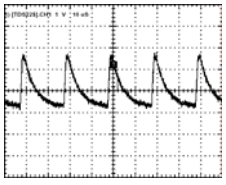
No → Replace C1&C2 if D1, D2, D3, D4 are normal.

Yes

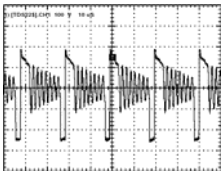
Check whether 100KHz oscillating signal on Pin6 of U20

No → Check/ replace U20.

U1(PIN 3 - RC waveform)



U1(PIN 8 - Drain waveform)



Yes

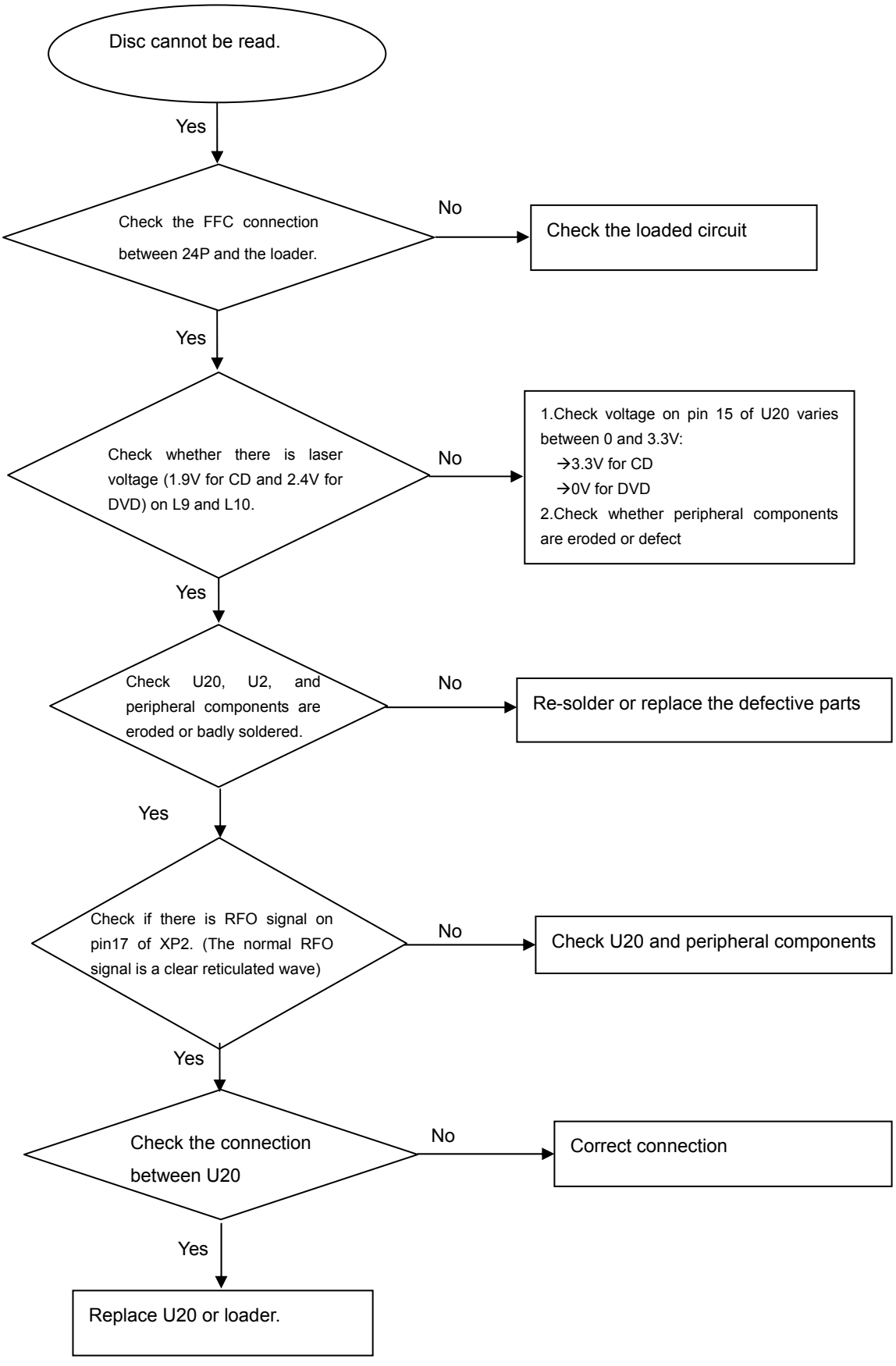
Check if +5V and +12V are short.

No → Check whether U20 are eroded.

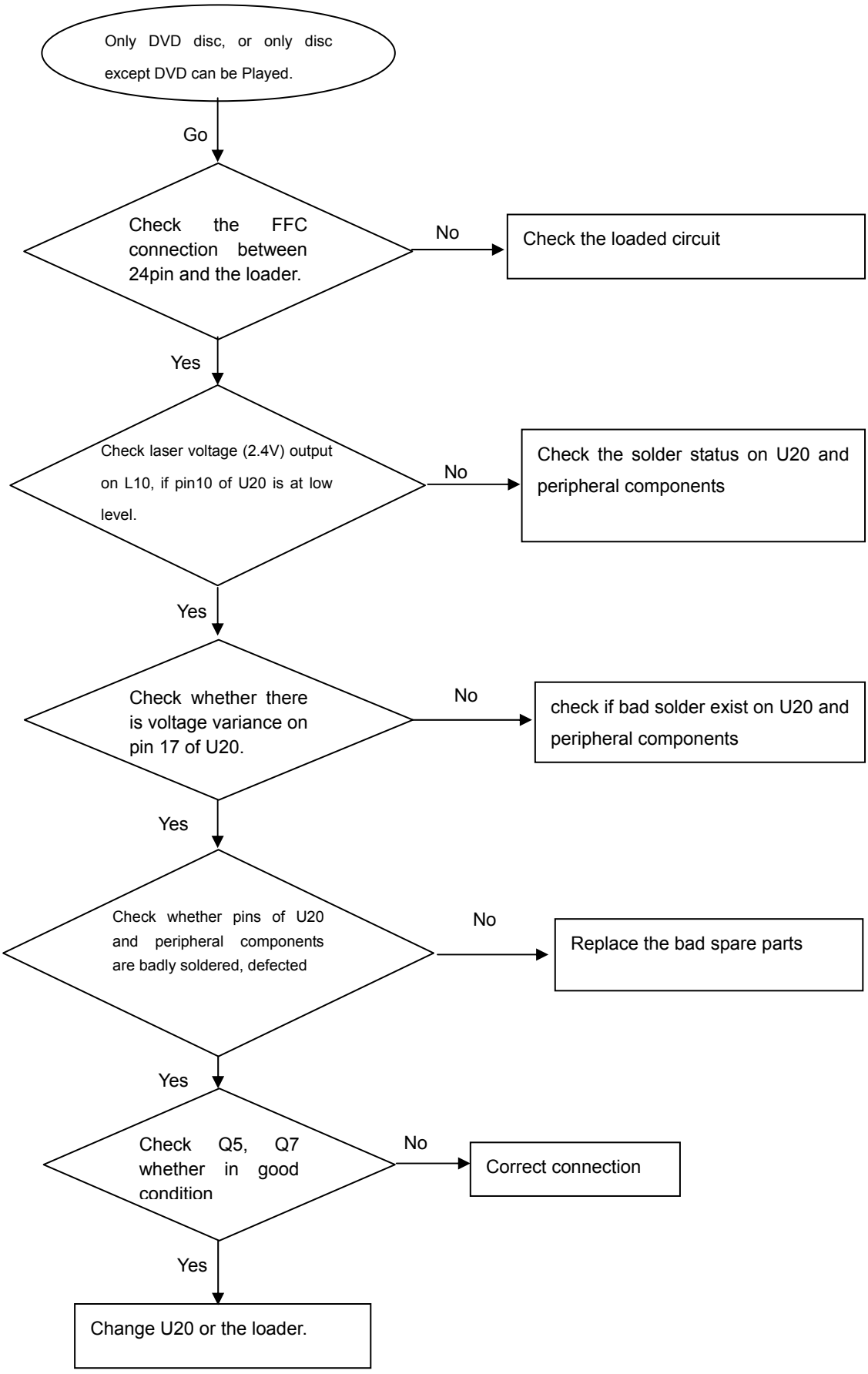
Yes

Check whether the components in the short-circuit voltage are defected or eroded.

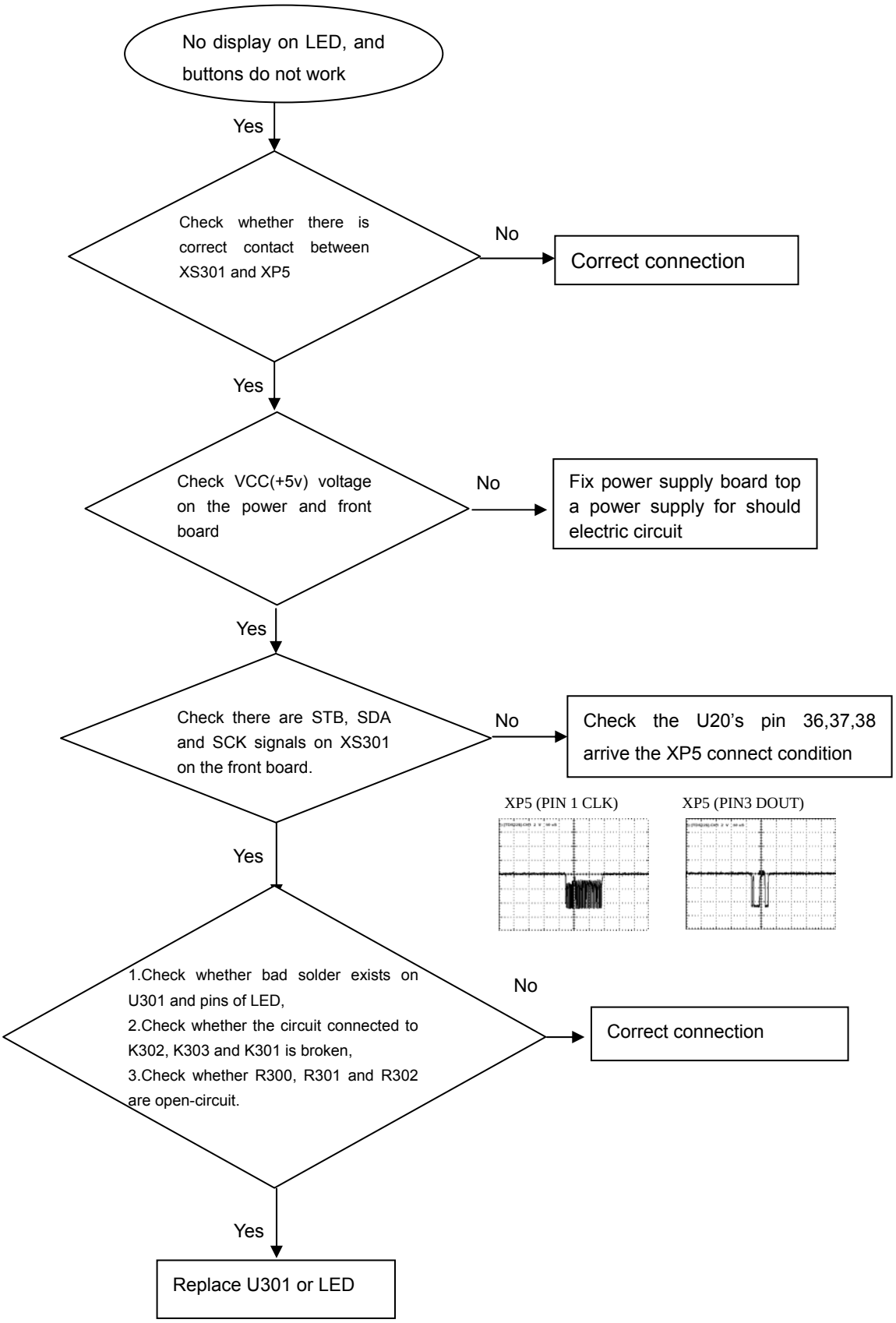
Disc cannot be read.


Disc cannot be read.
Yes
Check the FFC connection between 24P and the loader.
No
Check the loaded circuit
Yes
Check whether there is laser voltage (1.9V for CD and 2.4V for DVD) on L9 and L10.
No
1.Check voltage on pin 15 of U20 varies between 0 and 3.3V:
→3.3V for CD
→0V for DVD
2.Check whether peripheral components are eroded or defect
Yes
Check U20, U2, and peripheral components are eroded or badly soldered.
No
Re-solder or replace the defective parts
Yes
Check if there is RFO signal on pin17 of XP2. (The normal RFO signal is a clear reticulated wave)
No
Check U20 and peripheral components
Yes
Check the connection between U20
No
Correct connection
Yes
Replace U20 or loader.

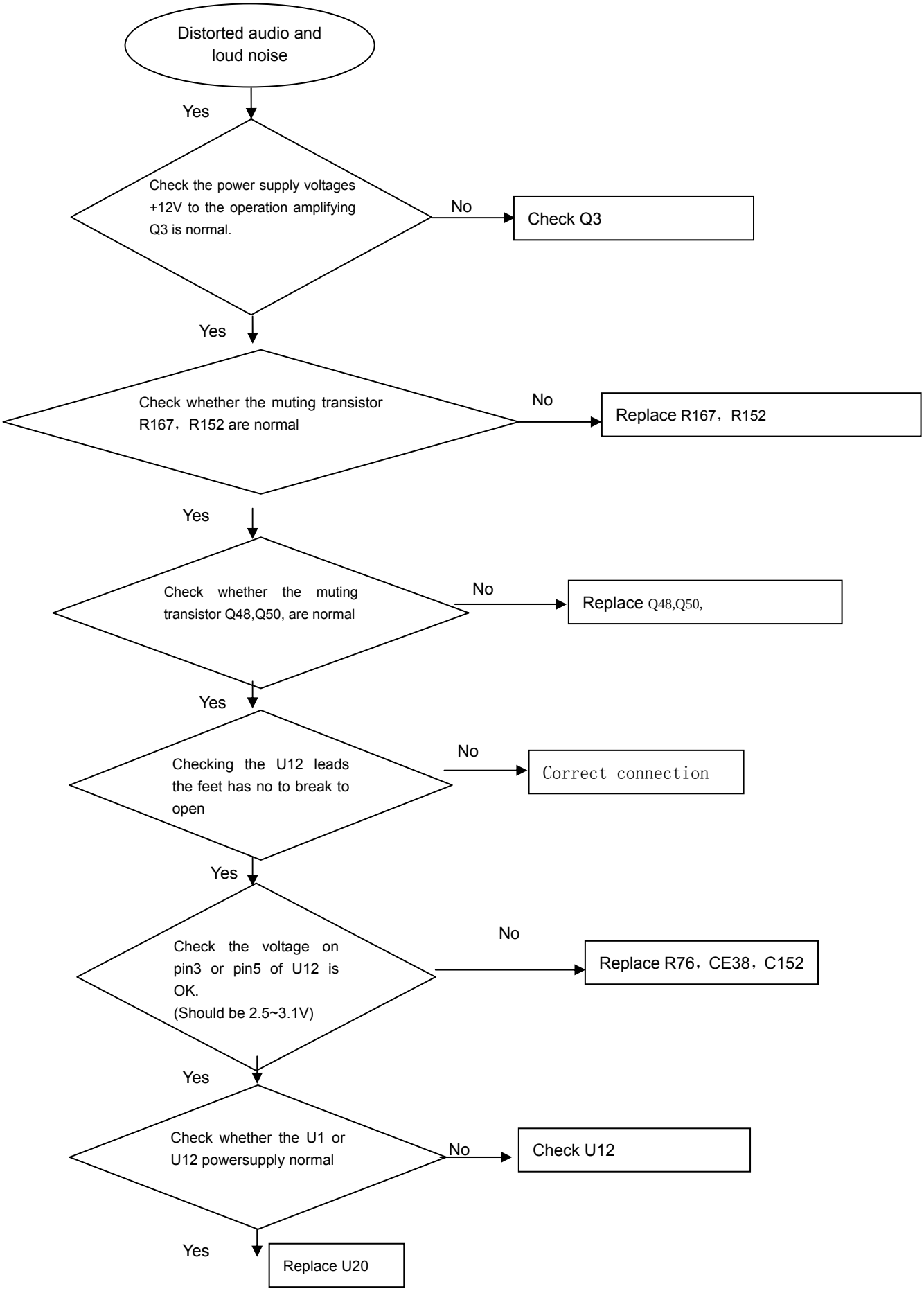
Only DVD disc or only disc except DVD can be played


Only DVD disc, or only disc except DVD can be Played.
Go
Check the FFC connection between 24pin and the loader.
No
Check the loaded circuit
Yes
Check laser voltage (2.4V) output on L10, if pin10 of U20 is at low level.
No
Check the solder status on U20 and peripheral components
Yes
Check whether there is voltage variance on pin 17 of U20.
No
check if bad solder exist on U20 and peripheral components
Yes
Check whether pins of U20 and peripheral components are badly soldered, defected
No
Replace the bad spare parts
Yes
Check Q5, Q7 whether in good condition
No
Correct connection
Yes
Change U20 or the loader.

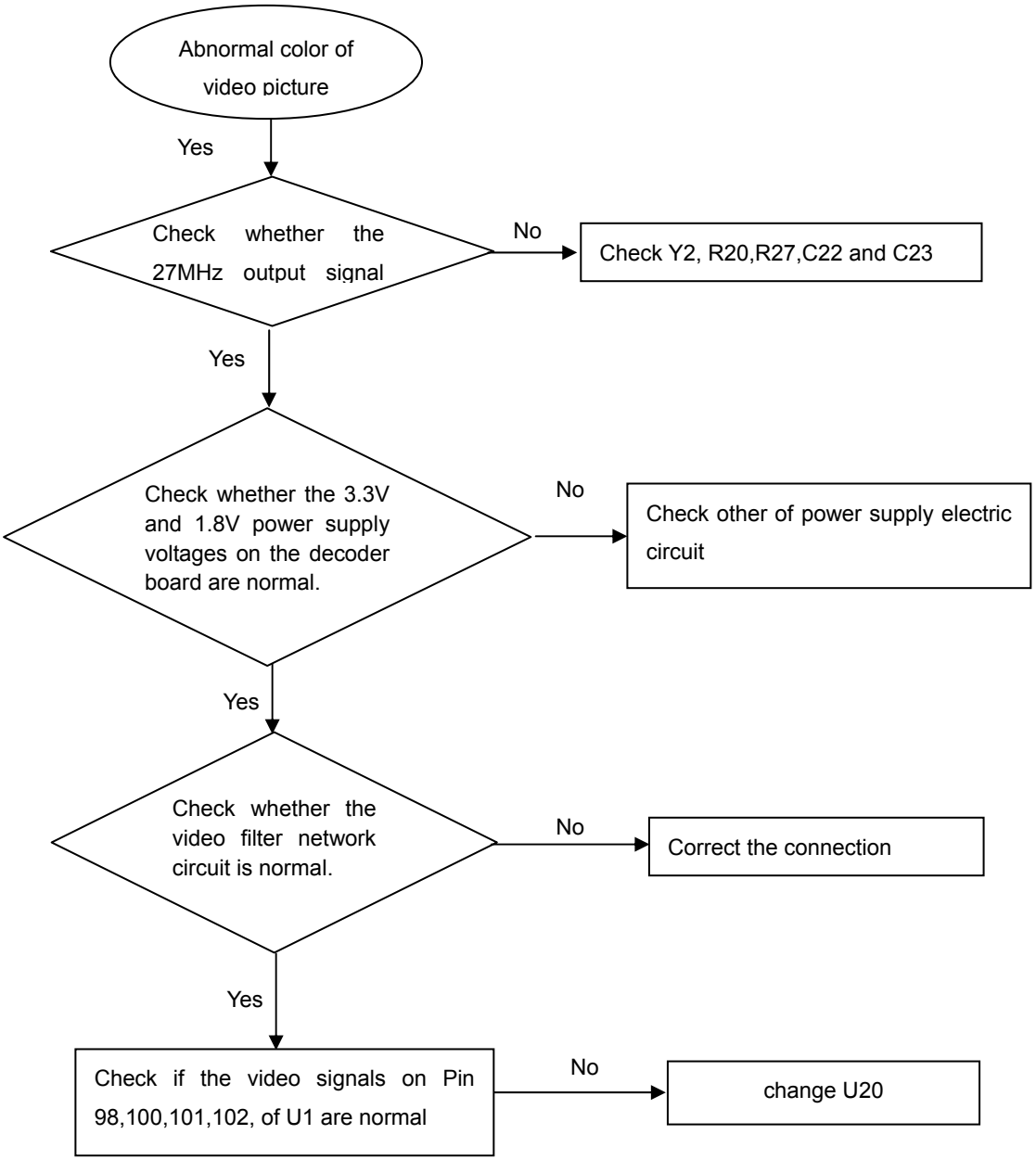
No display on LED, and buttons do not work


No display on LED, and buttons do not work
Yes
Check whether there is correct contact between XS301 and XP5
No
Correct connection
Yes
Check VCC(+5v) voltage on the power and front board
No
Fix power supply board top a power supply for should electric circuit
Yes
Check there are STB, SDA and SCK signals on XS301 on the front board.
No
Check the U20's pin 36,37,38 arrive the XP5 connect condition
XP5 (PIN 1 CLK)
XP5 (PIN3 DOUT)
Yes
1.Check whether bad solder exists on U301 and pins of LED,
2.Check whether the circuit connected to K302, K303 and K301 is broken,
3.Check whether R300, R301 and R302 are open-circuit.
No
Correct connection
Yes
Replace U301 or LED

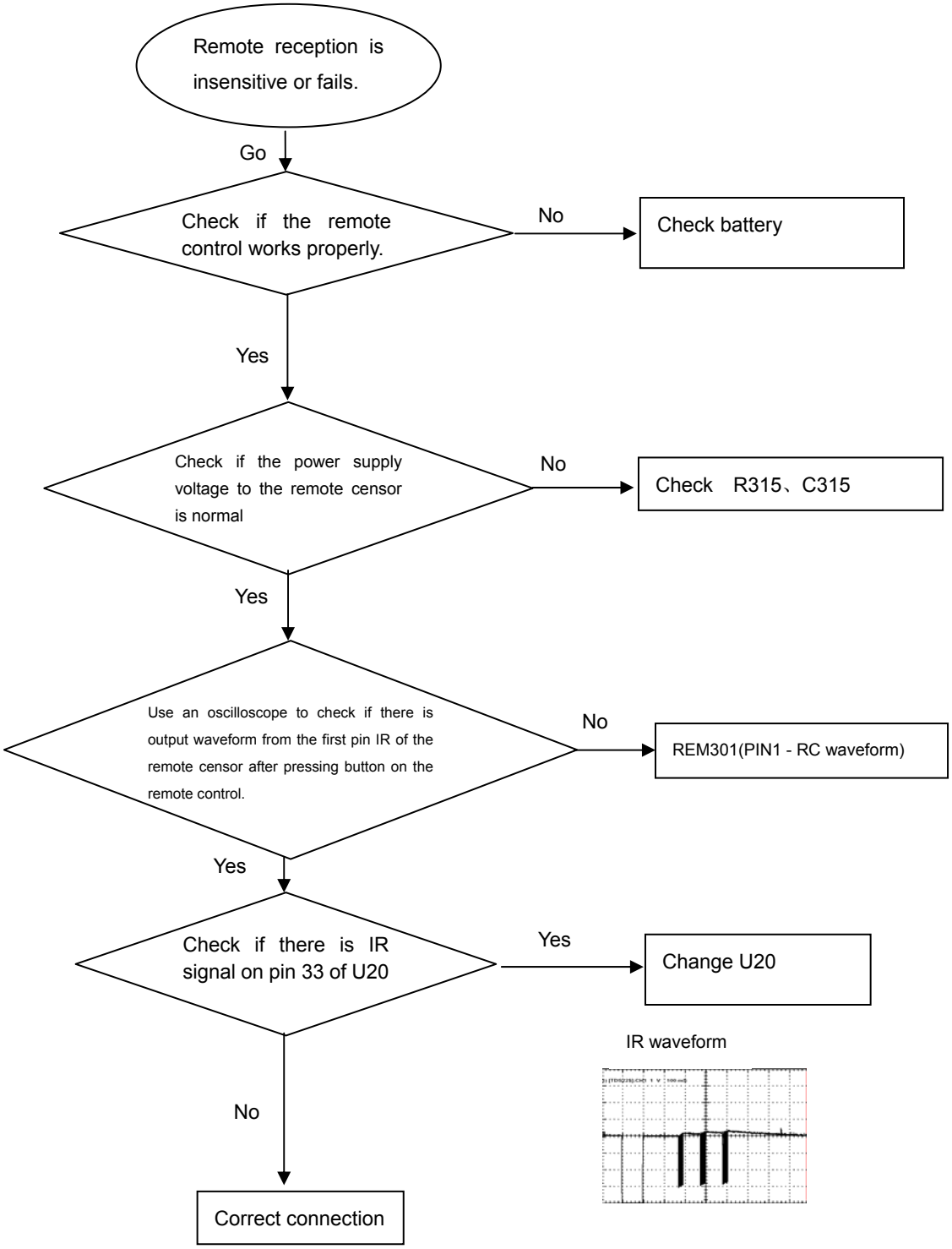
Distorted audio and loud noise



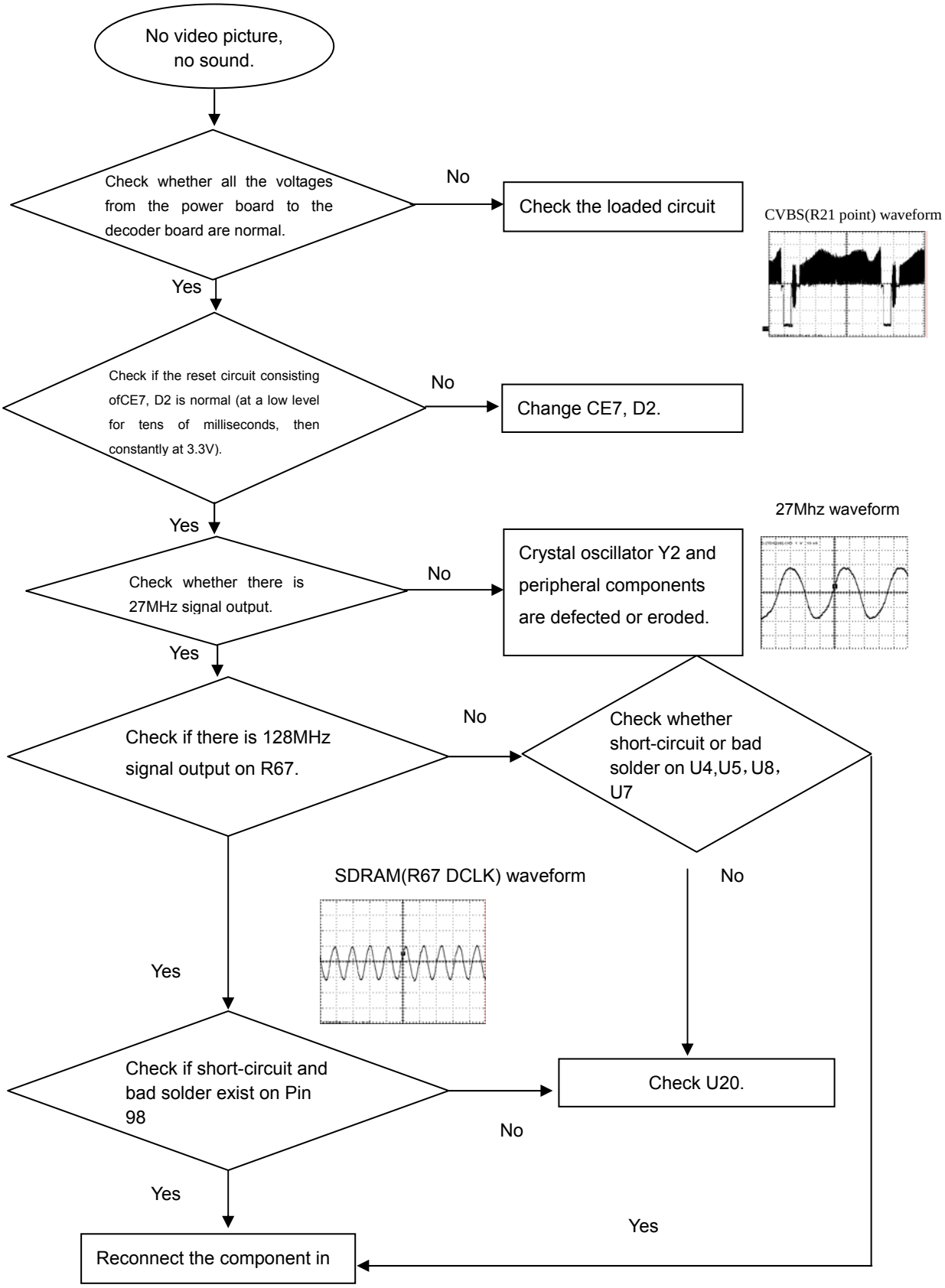
Abnormal color of video picture


Abnormal color of video picture
Yes
Check whether the 27MHz output signal
No
Check Y2, R20,R27,C22 and C23
Yes
Check whether the 3.3V and 1.8V power supply voltages on the decoder board are normal.
No
Check other of power supply electric circuit
Yes
Check whether the video filter network circuit is normal.
No
Correct the connection
Yes
Check if the video signals on Pin 98,100,101,102, of U1 are normal
No
change U20

Remote reception is insensitive or fails.

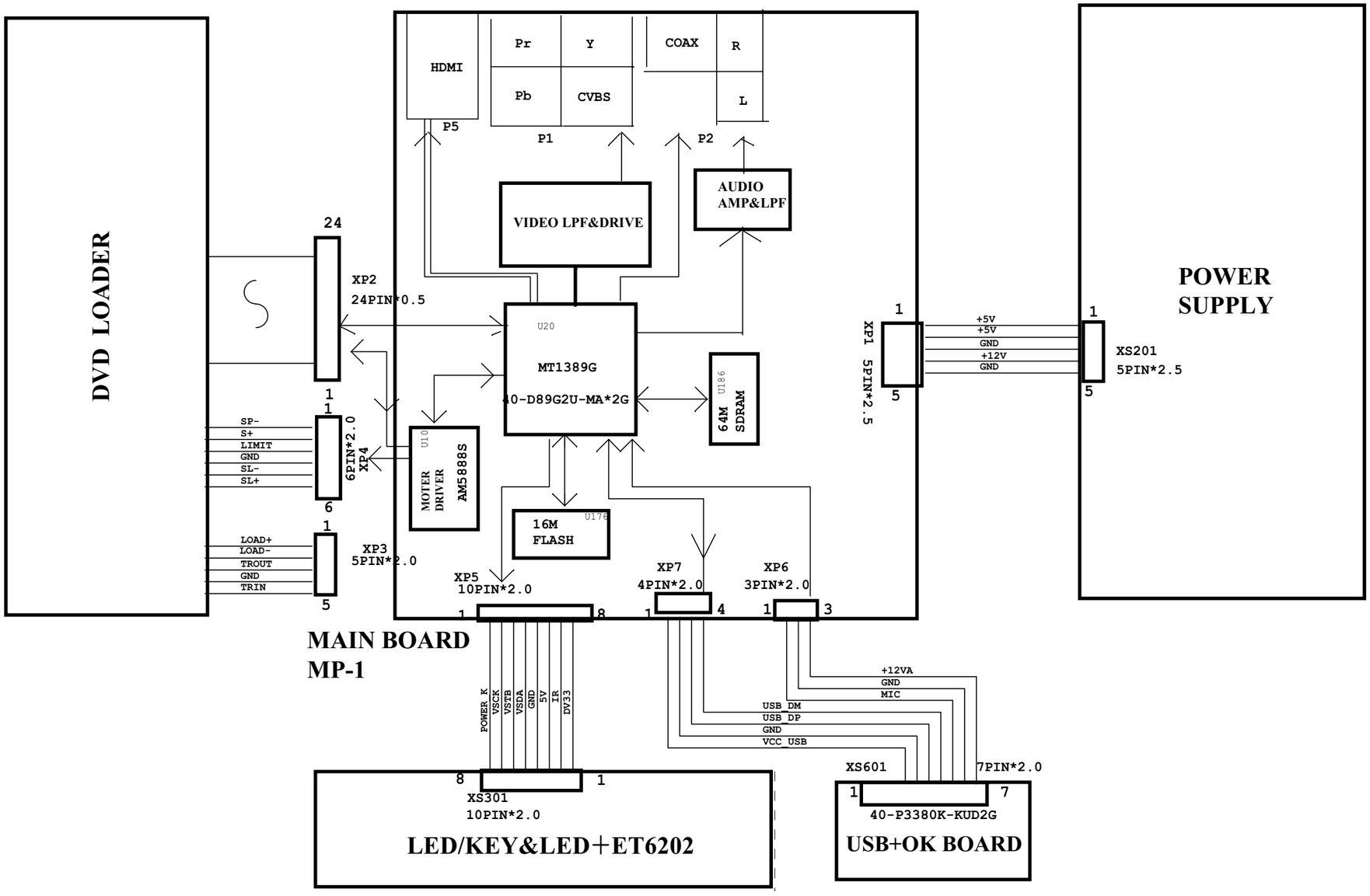

Remote reception is insensitive or fails.
Go
Check if the remote control works properly.
No
Check battery
Yes
Check if the power supply voltage to the remote censor is normal
No
Check R315、C315
Yes
Use an oscilloscope to check if there is output waveform from the first pin IR of the remote censor after pressing button on the remote control.
No
REM301(PIN1 - RC waveform)
Yes
Check if there is IR signal on pin 33 of U20
Yes
Change U20
IR waveform
No
Correct connection

No video picture, no sound.


No video picture, no sound.
Check whether all the voltages from the power board to the decoder board are normal.
No
Check the loaded circuit
CVBS(R21 point) waveform
Yes
Check if the reset circuit consisting ofCE7, D2 is normal (at a low level for tens of milliseconds, then constantly at 3.3V).
No
Change CE7, D2.
Yes
27Mhz waveform
Check whether there is 27MHz signal output.
No
Crystal oscillator Y2 and peripheral components are defected or eroded.
Yes
Check if there is 128MHz signal output on R67.
No
Check whether short-circuit or bad solder on U4,U5，U8，U7
SDRAM(R67 DCLK) waveform
No
Yes
Check if short-circuit and bad solder exist on Pin 98
Check U20.
No
Yes
Yes
Reconnect the component in

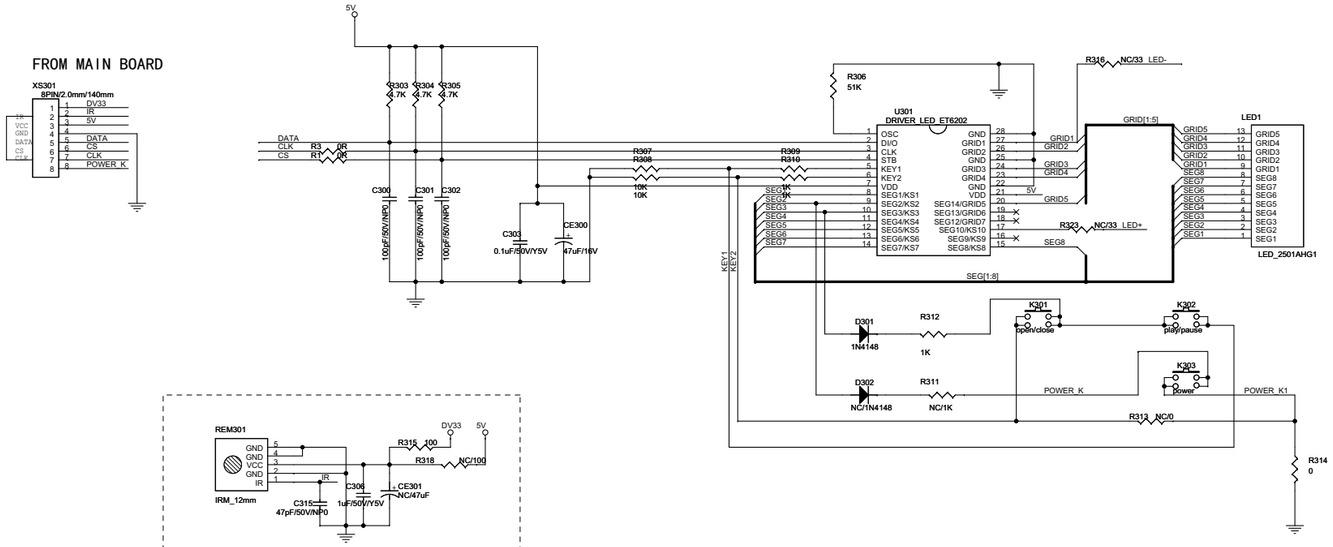
5-1

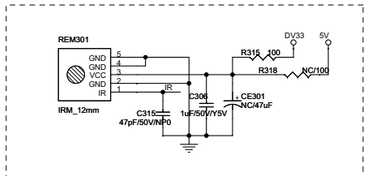
DVP3880K BLOCK & WIRING DIAGRAM

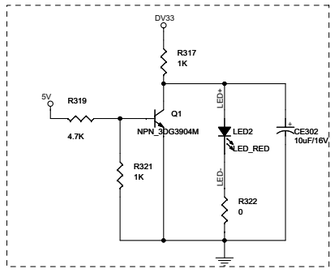


6-1

Front Control Board Circuit Diagram:



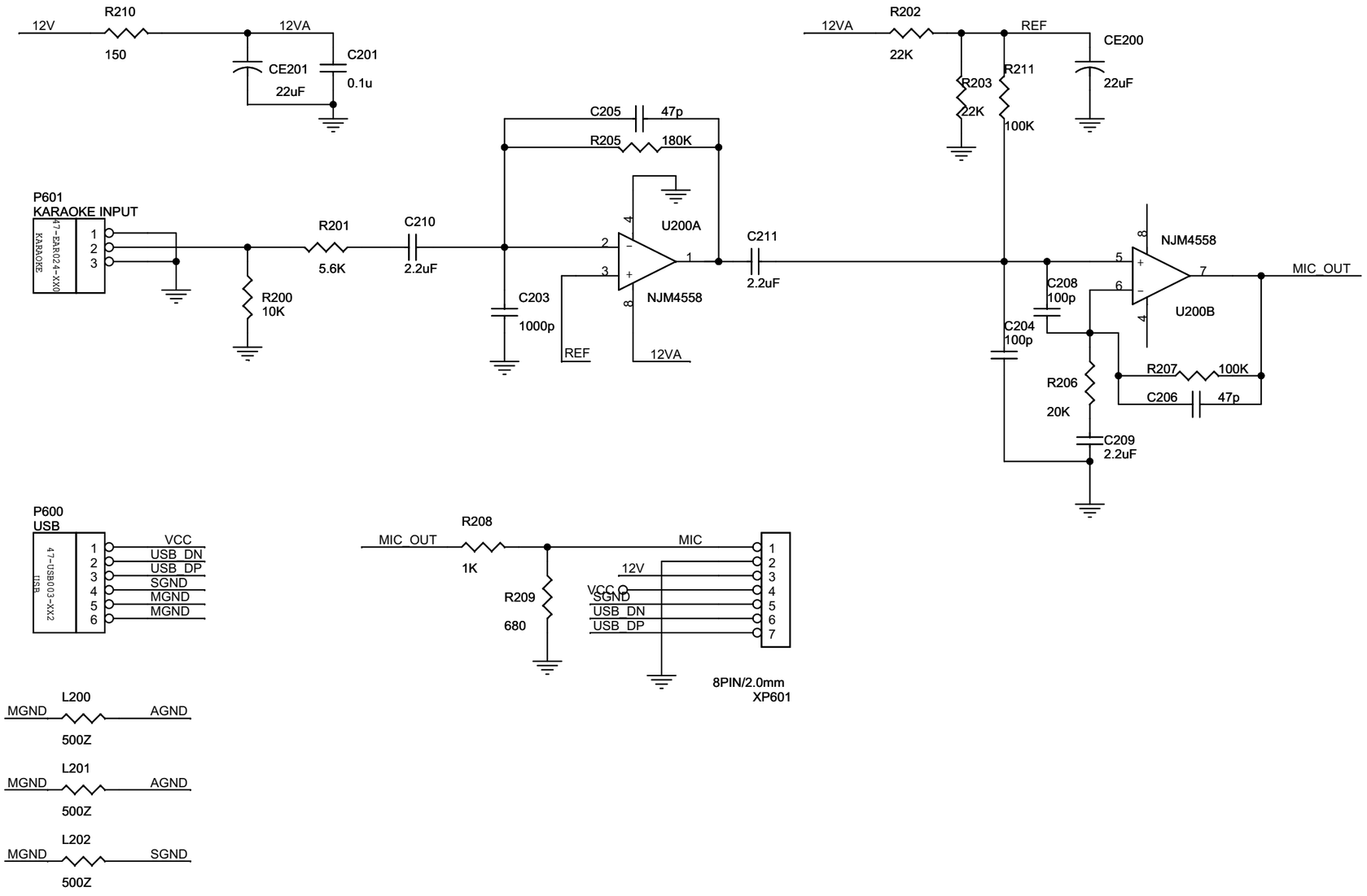




output	Q1	R317	R319	R321	R322	R323	R316	R313
0.3W	Y	Y	Y	Y	Y	N	N	N
1W	N	N	N	N	N	Y	Y	Y

6-2

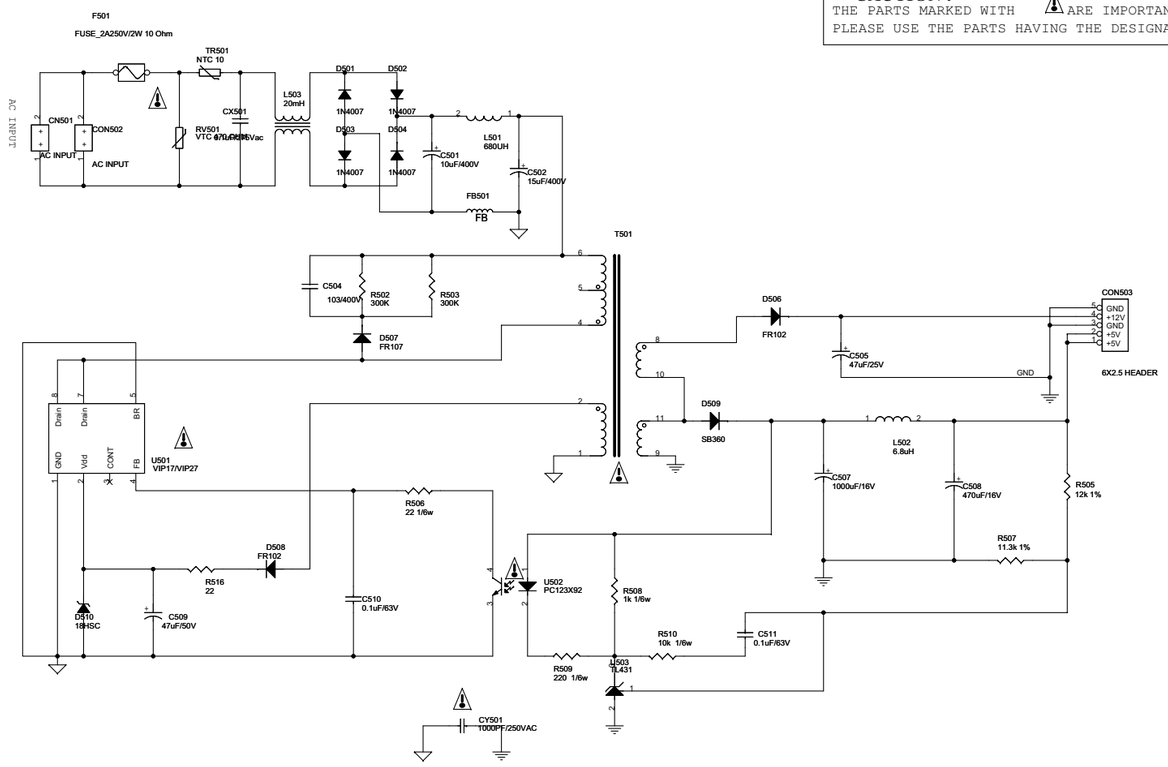
Karaoke and USB board Circuit Diagram:



6-3

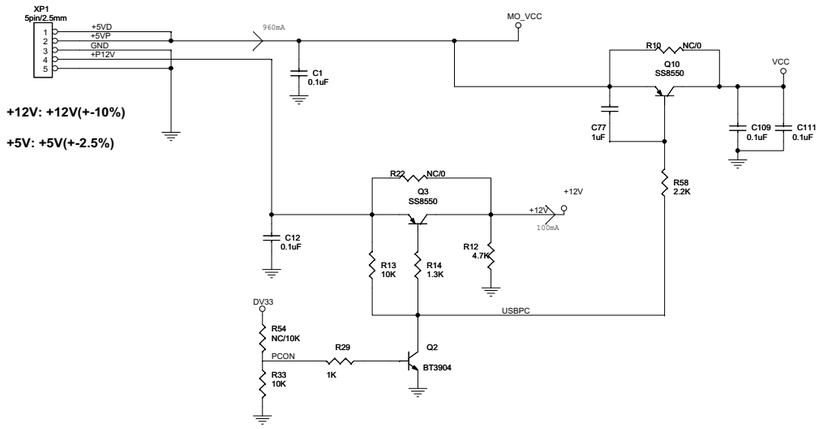
Power Supply Board Circuit Diagram:

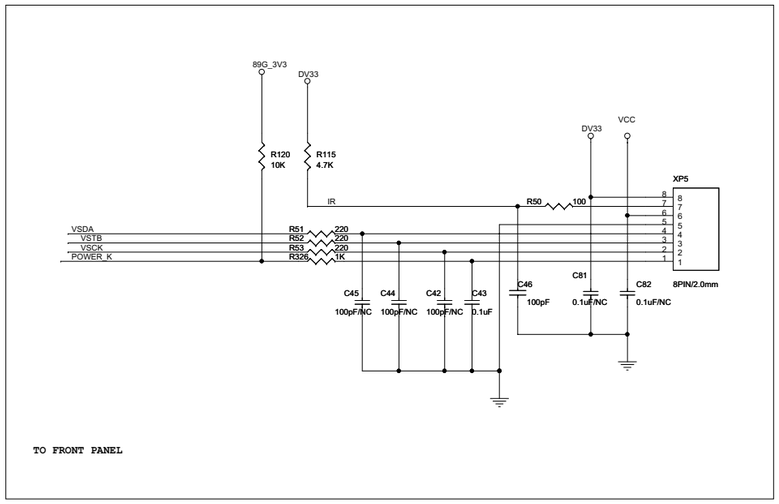
*** CAUTION :**
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

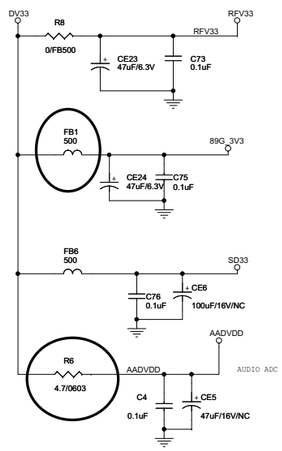


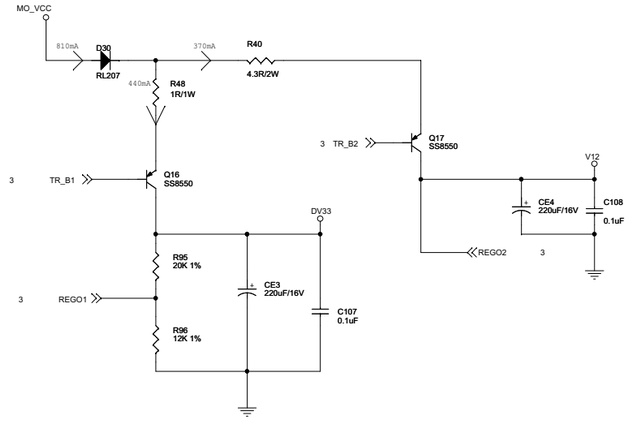
6-4

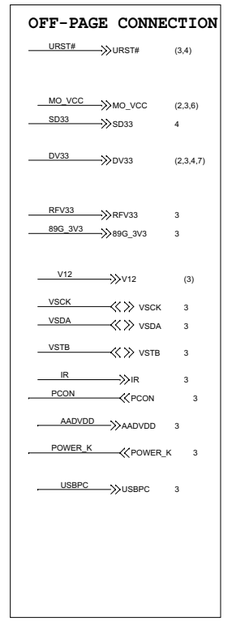
Main Board Circuit Diagram: Power Supply



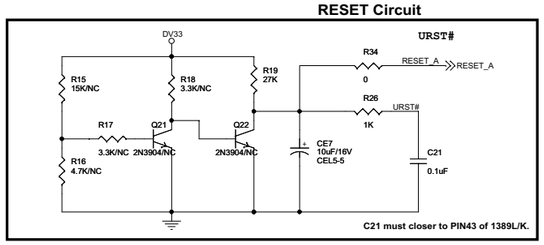








RESET Circuit



6-5

Main Board Circuit Diagram: MT1389G

SERVO RF DeCAP.

V12 — RFV12-1 — RFV12-2 — C83 0.1uF — C84 0.1uF

RF Reference

V20 — C71 0.1uF — CE8 47uF/6.3V — M_BIAS — C72 0.1uF — CE9 47uF/6.3V

RFV33 — C35 0.01uF — RFVDD3 — C36 2200pF

Crystal

R20 100K — Y2 27MHz — R27 51 — XI — XO — C22 33pF — C23 33pF — FB10 0R/FB500R — C31 NC/15pF

Put these circuits as closer as possible to MT1389

ADACVDD — R30 0 — 89G_3V3 — C33 0.1uF

DACVDD3 — R21 0 — CE1 10uF/6.3V — C34 0.1uF — C48 0.1uF

SP- — R24 10K — OP- — R25 1 — C24 0.1uF — C27 0.1uF — D3 BAT54C — DV33 — SP-A — R28 10K — OPO — SOT-23

DV33 — XP4 6PIN/2.0mm — R23 10K LIMIT — R128 1K — SP-A — SP+ — SL- — SL+ — C20 0.1uF

GPI36 LIMIT TROUT
GPO5 TRCLOSE
PIN_14 VR_CD
PIN_15 VR_DVD
GPIO3 89M_CEC
GPIO34 IOA TROPEN
GPIO35 STBY

D — 3 — G — 2 — 1 — S — 2SK3018 SC-70

SONY 313

XP2 SMD0.5 TOP — VR_DVD — VR_CD — R38 100 — R39 100 — R60 NC/0R — C32 0.1uF — L6 FB/2.2 — VCC — CE10 100uF/16V

Very Important to reduce Noise

TOP: 1 LD-DVD, 2, 3, 4 MDI1, 5 LD-CD, 6, 7, 8, 9, 10 E AVCC1, 11 V20 — C94 0.1uF, 12, 13, 14 F, 15 B, 16 A, 17 RFO, 18 IOA, 19 D, 20 C, 21 T-, 22 T+, 23 F+, 24 F-

C37 NC — C79 NC/0.1uF — L9 10uH/NC — R98 NC/0 — C78 NC/0.1uF — L10 10uH/NC — R97 NC/0

LDO2 — Q7 9012 — CE11 47uF/6.3V — Q23 9012 — R49 10K — D4 1N4148 — RFV33 — R45 4.7 — RFV33 — R46 4.7 — R57 33K SOD-323D — CE12 47uF/6.3V — Q24 9012 — R32 10K — Q8 9012 — CE33 100uF/10V — LDO1

FOSO — R41 27k — FOO
TRSO — R42 27k — TRO
FMSO — R43 10k — FMO
DMSO — R44 10k — DMO
C38 330pF — C39 330pF — C40 0.1uF — C41 0.015uF — M_BIAS

MO_VCC — TP14 T- — TP15 T+ — TP16 SL+ — TP17 SL- — U13 AM5890 — TP10 F+ — TP11 F- — TP12 SP- — TP13 SP+ — LOAD+ — LOAD- — TROPEN — TRCLOSE — REGO1 — DMSO — REGO2 — TR_BT — FOSO — FMSO — RESET_A — TR_B2 — TRSO — M_BIAS — STBY — VCC — GND — VINLD — RESET — TRB2 — VINTK — BIAS — MUTE — VOTK+ — VOTK- — VOLD+ — VOLD- — VCC2 — VCCD — VCTL — VOFC+ — VOFC- — VOSL- — VOSL+ — VOTR+ — VOTR- — REV — FWD — REGO1 — VINSL+ — REGO2 — TRB1 — VINFC — TP18 — TP19 — R125 1K 1% — R136 3K — C128 0.1uF/25V — CE105 100uF/16V — R124 10K — C127 0.1uF/25V — R118 10K

MotorDriver

89G_3V3 — C85 0.1uF — C87 0.1uF — V12 — C90 0.1uF — C91 0.1uF

Chip Decap.

DV33 — XP3 5PIN/2.0mm — C49 0.1uF — LOAD- — LOAD+ — R63 10K TROUT — R9 1K — R83 10K TRIN — R11 1K — C18 0.1uF — C19 0.1uF

MO_VCC — F1 [FUSE(500MA)] — R31 180 — USBPC — R59 180 — Q9 PBSS5320T — VCC_USB — XP7 4PIN/2.0mm — USB_DM — USB_DP — C74 0.1uF — D10 ESD0603 — D11 ESD0603

RS-232

DV33 — XP8 — RXD — TXD — GND — C16 NC(100pF) — C10 NC(100pF) — 4pin/2.0mm

Default: GPIO11 RXD — GPIO6 TXD

MT1389G LQFP 128 V1.0

U20 — LQFP128 — E_PAD/GND

RFV12-2	1	AVDD12_2	
RFVDD3	2	AVDD33_1	
XI	3	XTALI	
XO	4	XTALO	
V20	5	V20	
M_BIAS	6	V14	
GPO5	7	REXT / GPO5	
MDI1	8	MDI1	
LDO1	9	LDO1	
LDO2	10	LDO2	
AVDD33	11	AVDD33_2	
DMO	12	DMO	
FMO	13	FMO	
PIN_14	14	TRAY_OPEN	
PIN_15	15	TRAY_CLOSE	
TRO	16	TRO	
FOO	17	FOO	
TRIN	18	FG / GPIO2	
USB_DP	19	USB_DP	
USB_DM	20	USB_DM	
USB_V33	21	VDD33_USB	
USB_V12	22	PAD_VRT / GPIO37	
SF_CS	23	VDD12_USB	
SF_DO	24	SF_CS	
SF_DI	25	SF_DO	
SF_CK	26	SF_DI	
UP1_6	27	SF_CK	
UP1_7	28	UP1_6 / SCL	
GPIO11	29	UP1_7 / SDA	
GPIO6	30	GPIO11	
URST#	31	GPIO6	
	32	PRST#	

MT1389G / MT1389M

M_MUTE_R — CKE — GPO14 AUDIO_MUTE

R108 560

C28 4.7uF — CE2 220uF/16V — C29 1uF — C93 10uF/10V — C17 10uF/10V — C16 0.1uF

RFO — RFI — RFE — RFD — RFC — RFB — RFA — RFG / OPNP — RFIN / OPOUT / OPIP — AVDD12 — AVDD33 — ADACVDD1 — CENTER / GPIO — AL / GPIO — AVCM — AR / GPIO — ARS / GPIO — LAFE / GPIO35 — PAD_APLLGND — APLLVDD_GPIO / GPIO34 — AADVDD — AKIN1 — ADVCM / GPIO20 — AKIN2 / GPIO19 — VREF / GPO14 — DACVDDC — TX2P — TX2N — AVDD12_D — TX1P — TX1N — AVSS12 — TX0P — TX0N — AVDD12_C — TXCP — TXCN — AVDD33_12 — EXT_RES — GPIO10 / HPLG — SPDIF / GPIO12 — DVDD12 — DVDD33 — RAS# — CAS# — RWE# — RA4 — RA5 — RA6 — RA7 — RA8 — RA9 — RA10 — RA11 — RA12 — RA13 — RA14 — RA15 — DQ0 … DQ15 — DQM0 — DQM1 — DCLK — CKE — DVDD12 — DVDD3 — CVBS_O — CVBS_O31 — DACVDD3 — CVBS — FS

GPO14 — C14 0.1uF/NC — DACVDD3 — TX2+ — TX2- — FB2 0R — V12 — C13 0.1uF — TX1+ — TX1- — TX0+ — TX0- — TXC+ — TXC- — R7 0/NC — Q1 NC(CES2302) — R5 2.2R — R4 2.5K 1% — HPLG — ASPDIF — C11 0.1uF — C80 4.7uF — R 330-TR-AO3401 — 89G_3V3 — C133 10uF/10V/NC — MO_VCC — V12 — MA3 — MA2 — MA1 — MA0 — MA10 — BA1 — BA0 — 89G_3V3 — RAS# — CAS# — WE# — MA4 — MA5 — MA6

89G_3V3 — R1 15K/NC — C5 4.7uF — C6 0.1uF — C3 0.1uF — FB3 0R — C7 10uF/10V — R3 5.1K 1% — V12 — FB4 0R — C9 10uF/10V — C8 0.1uF

XI — XO — V20 — V14 — REXT / GPO5 — MDI1 — LDO1 — LDO2 — AVDD33_2 — DMO — FMO — TRAY_OPEN — TRAY_CLOSE — TRO — FOO — FG / GPIO2 — USB_DP — USB_DM — VDD33_USB — PAD_VRT / GPIO37 — VDD12_USB — SF_CS — SF_DO — SF_DI — SF_CK — UP1_6 / SCL — UP1_7 / SDA — GPIO11 — GPIO6 — PRST# — IR — GPIO3 / INT# — GPIO4 — GPIO13 — GPIO9 — GPIO8 — GPIO10 / CKE — GPIO12 — RD0 — RD1 — RD2 — RD3 — RD4 — RD5 — RD6 — RD7 — DQM0 — DQM1 — RD15 — RD14 — DVDD12 — RD13 — RD12 — RD11 — RD10 — RD9 — RD8 — DQM1 — DCLK — RA11 — MA0 — MA9 — MA7 — IR — GPIO3 — VSCK — VSDA — VSTB — CKE — 89G_3V3 — V12

OFF-PAGE CONNECTION

DRAM I/F

DQ[0..15]	DQ[0..15]	4
MA[0..11]	MA[0..11]	4
DQM[0..1]	DQM[0..1]	4
BA[0..1]	BA[0..1]	4
DCLK	DCLK	4
RAS#	RAS#	4
CAS#	CAS#	4
WE#	WE#	4

S-FLASH

SF_CK	SF_CK	4
SF_CS	SF_CS	4
SF_DI	SF_DI	4
SF_DO	SF_DO	4

VIDEO I/F

CVBS_OUT	CVBS_OUT	5
V_R	V_R	5
V_B	V_B	5
V_G	V_G	5

AUDIO I/F

AR	AR	6
AL	AL	6
AUDIO_MUTE	AUDIO_MUTE	6
ASPDIF	ASPDIF	6
AKIN1	AKIN1	6

TMDS I/F

TXC+	TXC+	7
TXC-	TXC-	7
TX0+	TX0+	7
TX0-	TX0-	7
TX1+	TX1+	7
TX1-	TX1-	7
TX2+	TX2+	7
TX2-	TX2-	7
HPLG	HPLG	7
UP1_[6..7]	UP1_[6..7]	7
89M_CEC	89M_CEC	7

Power

URST#	URST#	(2,4)
DV33	DV33	(2,3,4,7)
AADVDD	AADVDD	2
89G_3V3	89G_3V3	1
V12	V12	(2)
RFV33	RFV33	1
RESET_A	RESET_A	
MO_VCC	MO_VCC	2

Front

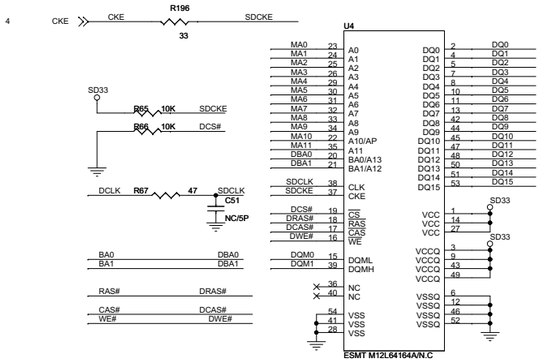
IR	IR	2

TR_BT	TR_B1	2
REGO1	REGO1	2
TR_B2	TR_B2	2
REGO2	REGO2	2
PCON	PCON	2
VSCK	VSCK	2
VSDA	VSDA	2
VSTB	VSTB	2
USBPC	USBPC	2
POWER_K	POWER_K	2

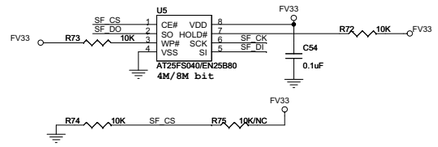
6-6

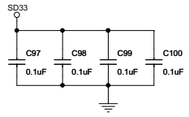
Main Board Circuit Diagram: SDRAM&FLASH

SDR_DRAM (Dual Layout)

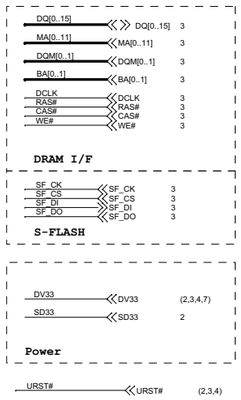


SerialFlash



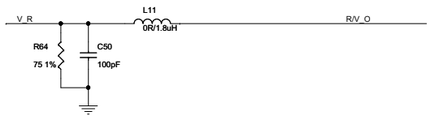


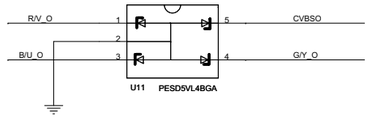
OFF-PAGE CONNECTION



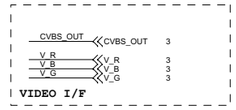
6-7

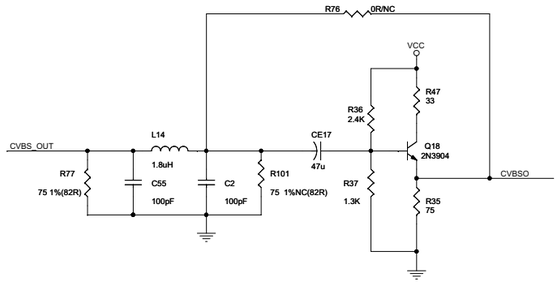
Main Board Circuit Diagram:VIDEO OUT & AV-CONNECTOR

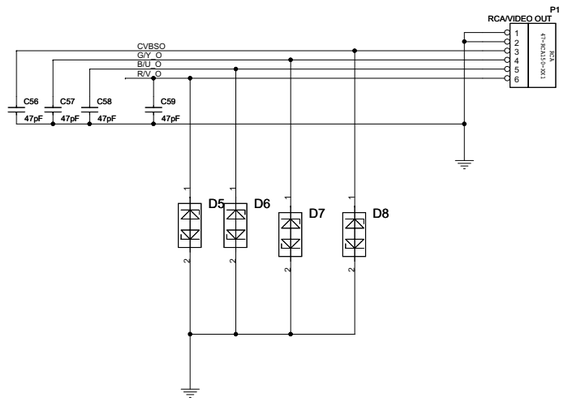




OFF-PAGE CONNECTION

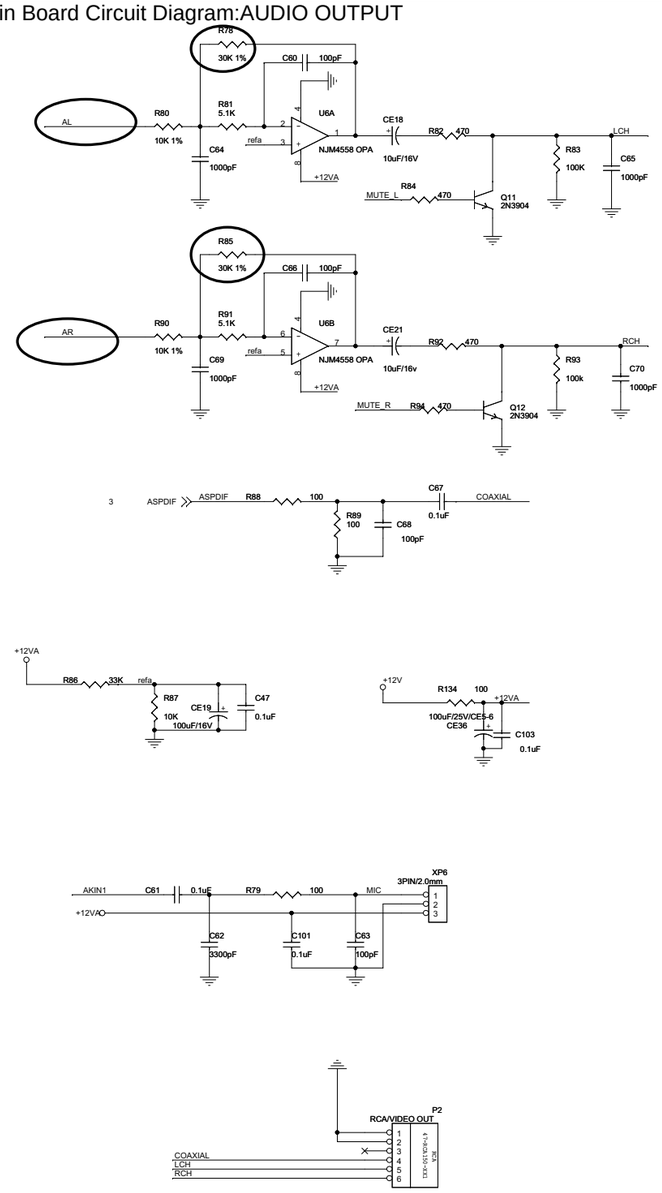


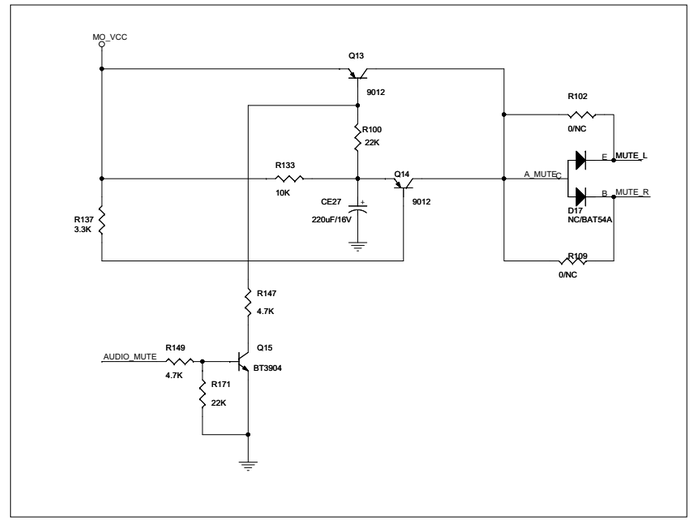




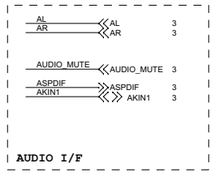
6-8

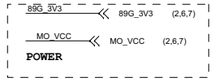
Main Board Circuit Diagram:AUDIO OUTPUT

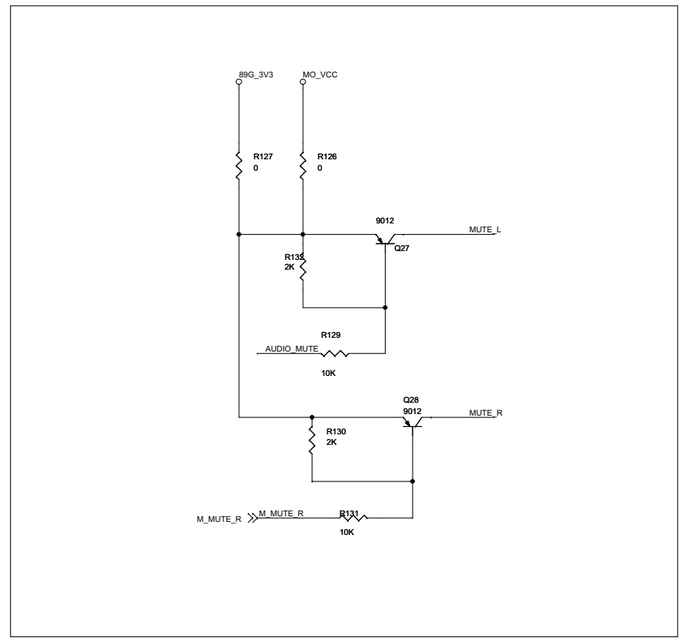




OFF-PAGE CONNECTION

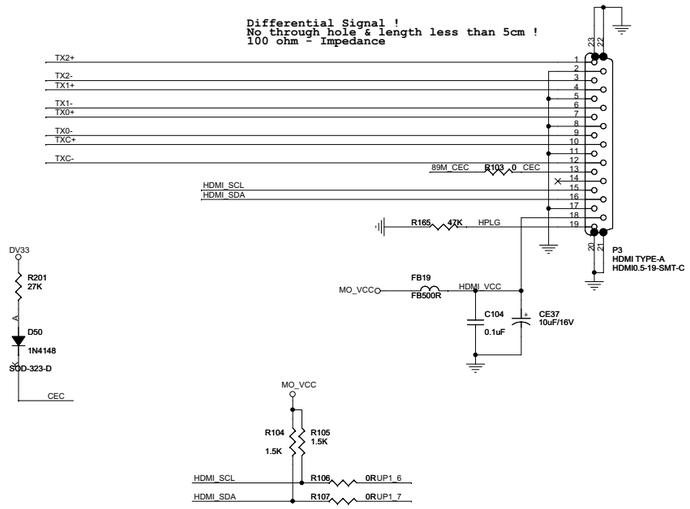




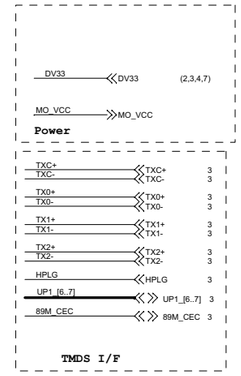


6-9

Main Board Circuit Diagram:HDMI I/F

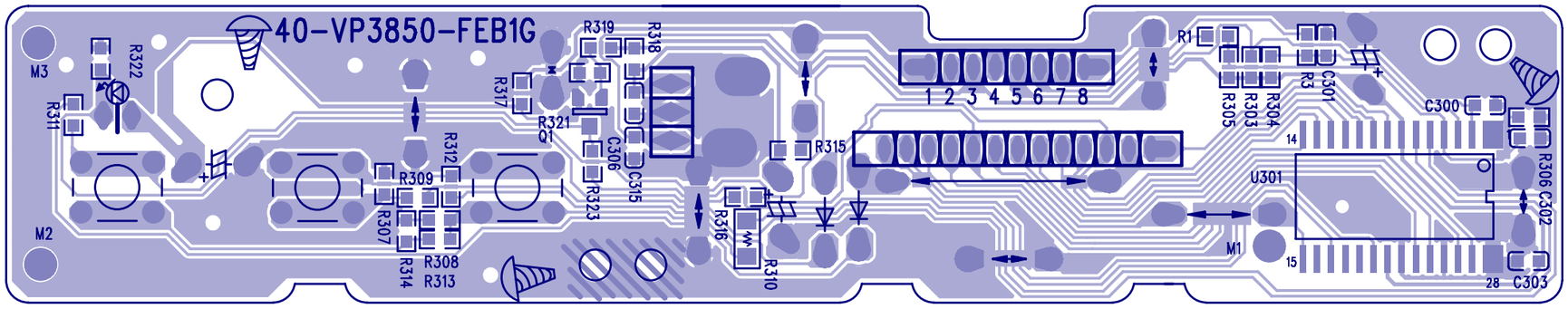


OFF-PAGE CONNECTION



6-10

Front Control Board Print-layout (bottom side):

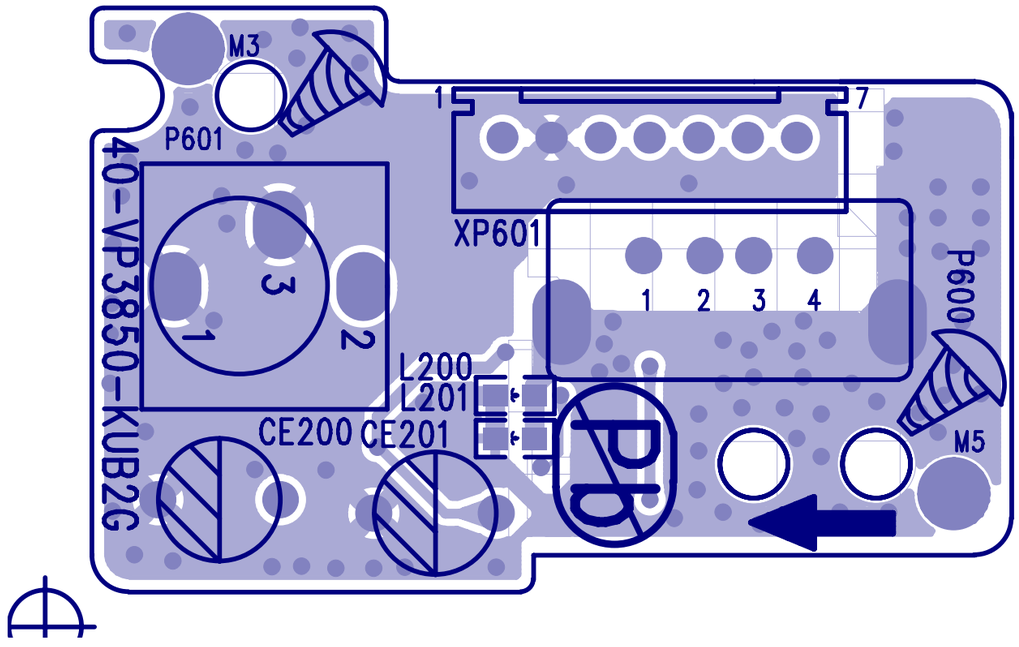


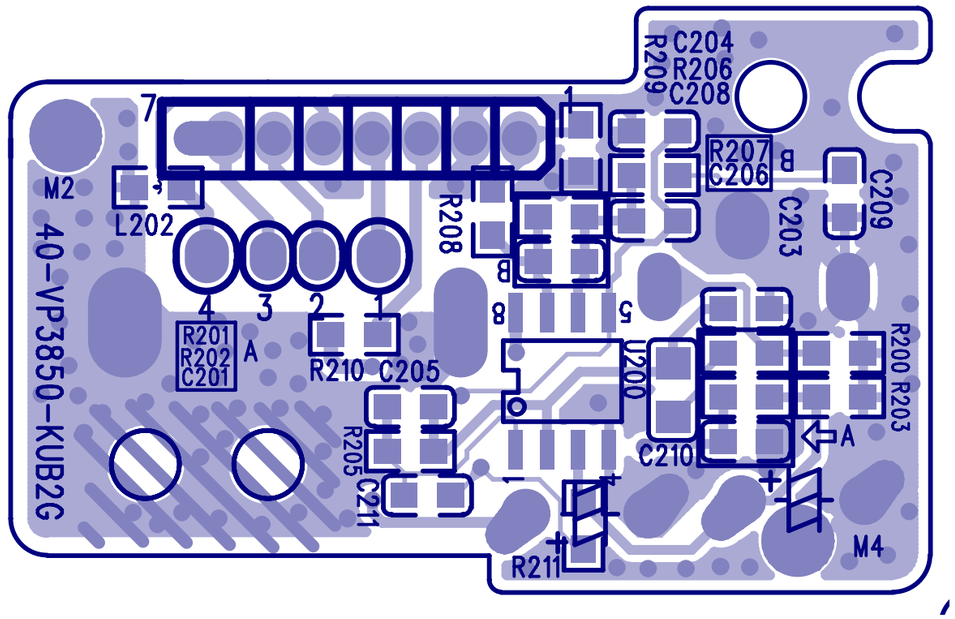
6-11

Karaoke and USB board Print-layout:

top side

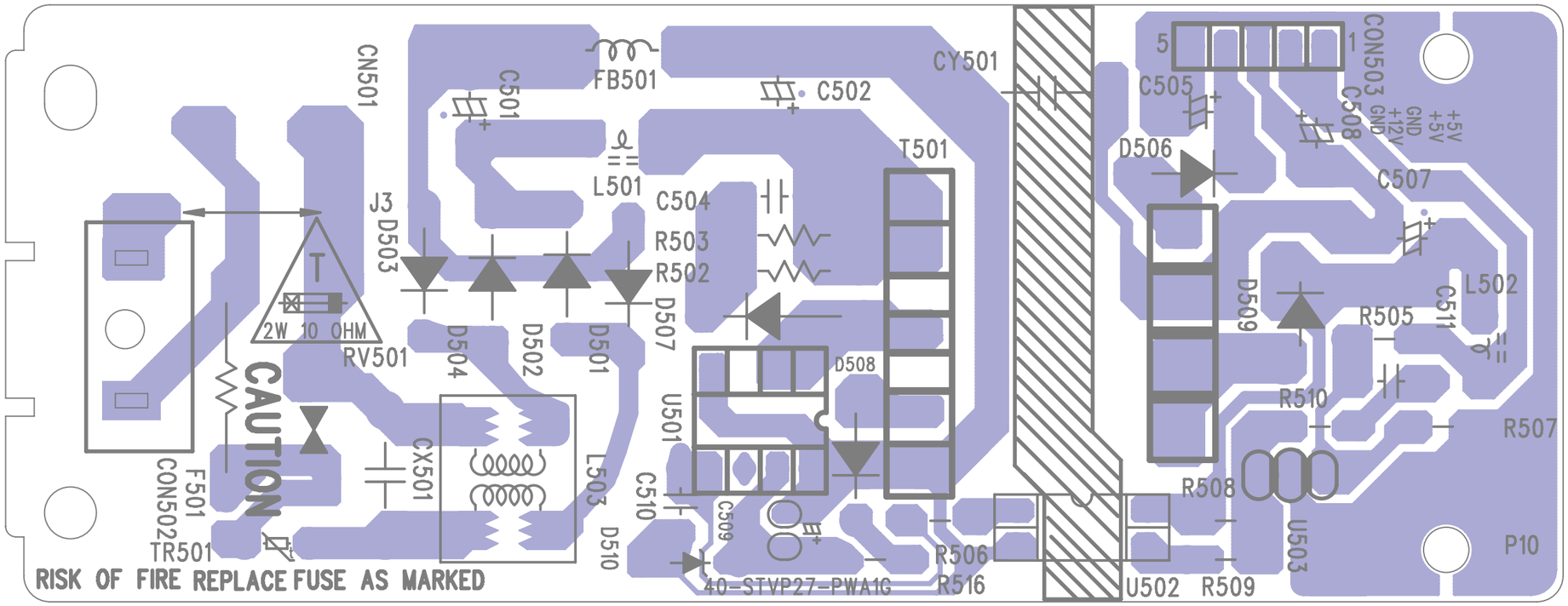
bottom side





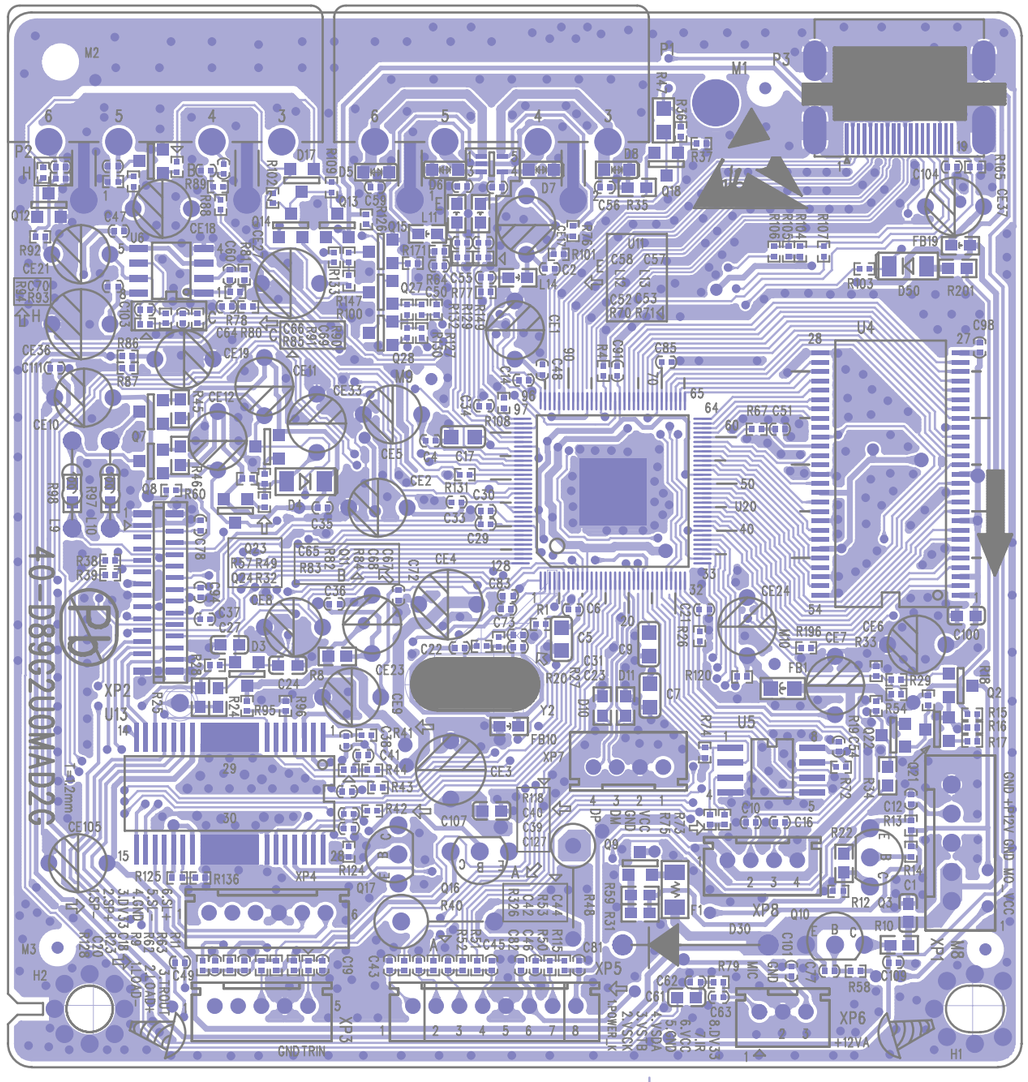
6-12

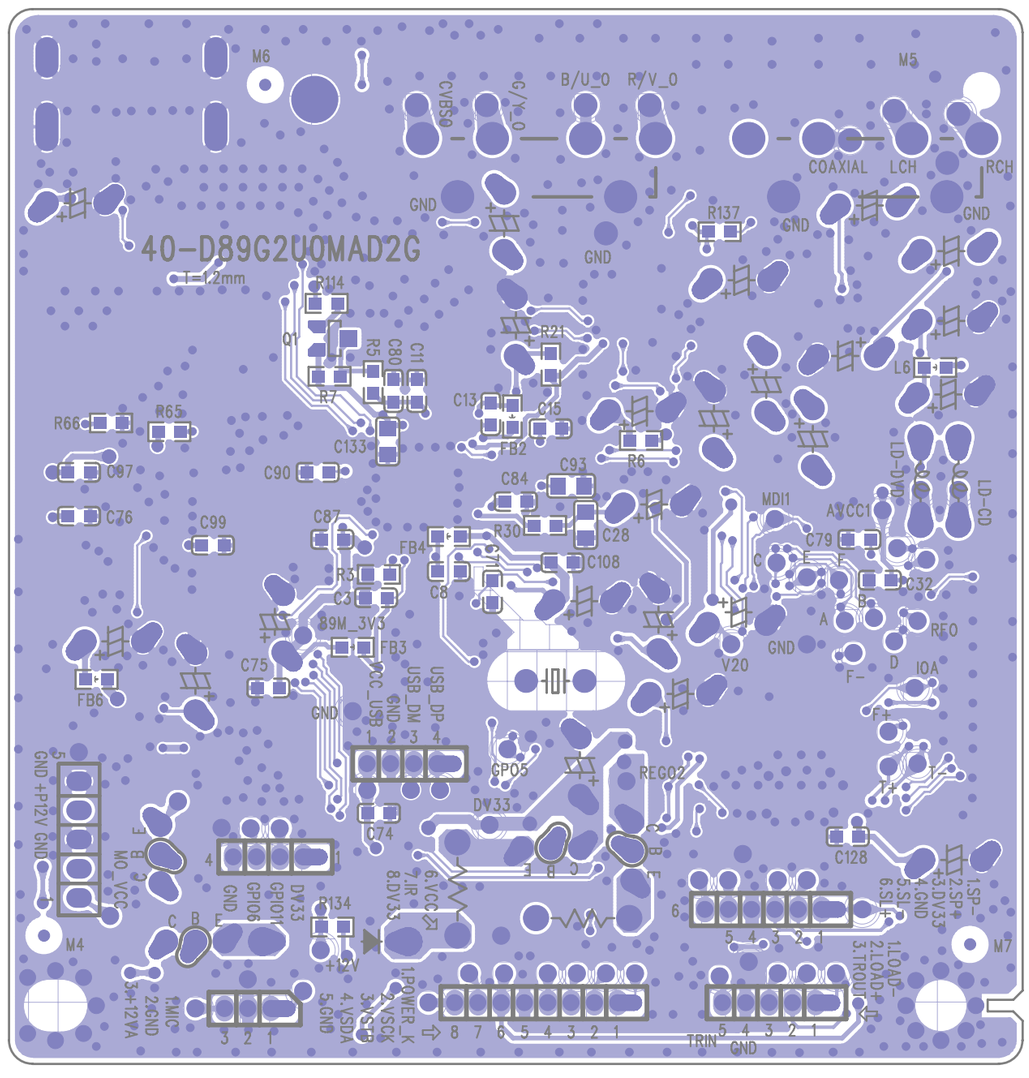
Power Supply Print-layout (bottom side):



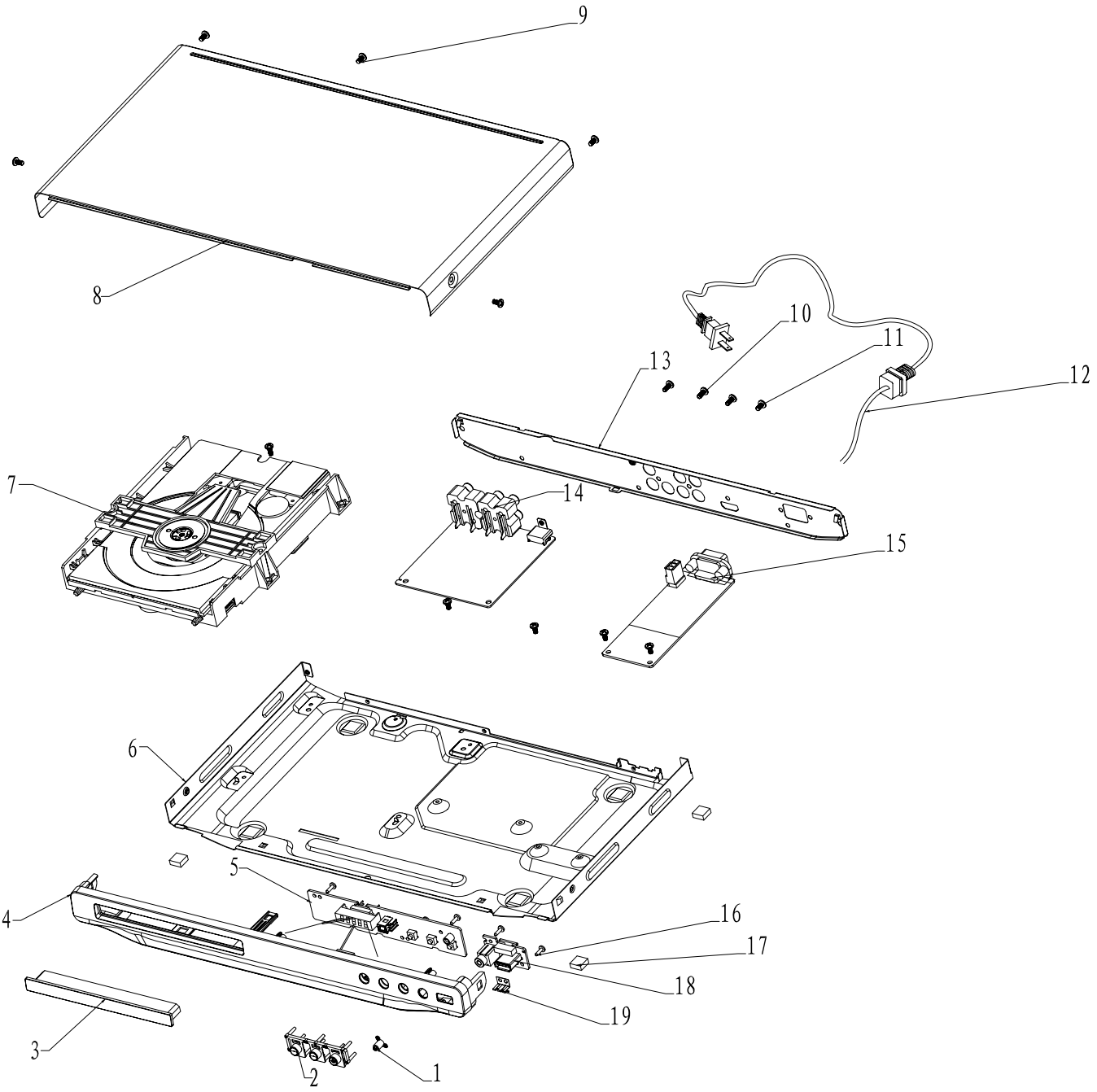
6-13

Main Board Print-layout (top and bottom sides):



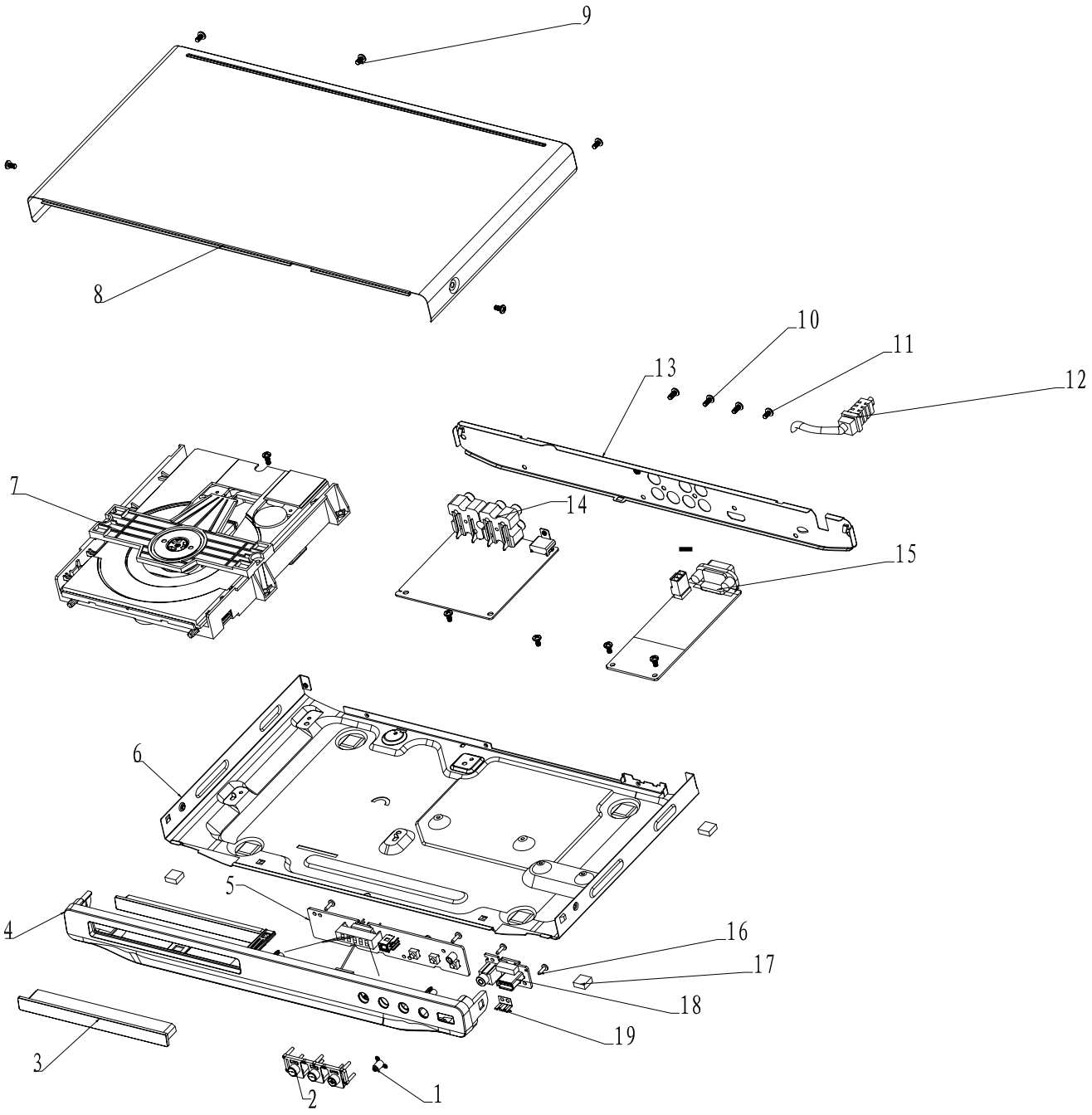


Exploded view for DVP3880K/55/98:



This is general mechanical exploded view for DVP3880K/55.Please refer to the model set for the detailed information.
ASSY includes components:1,2,4.

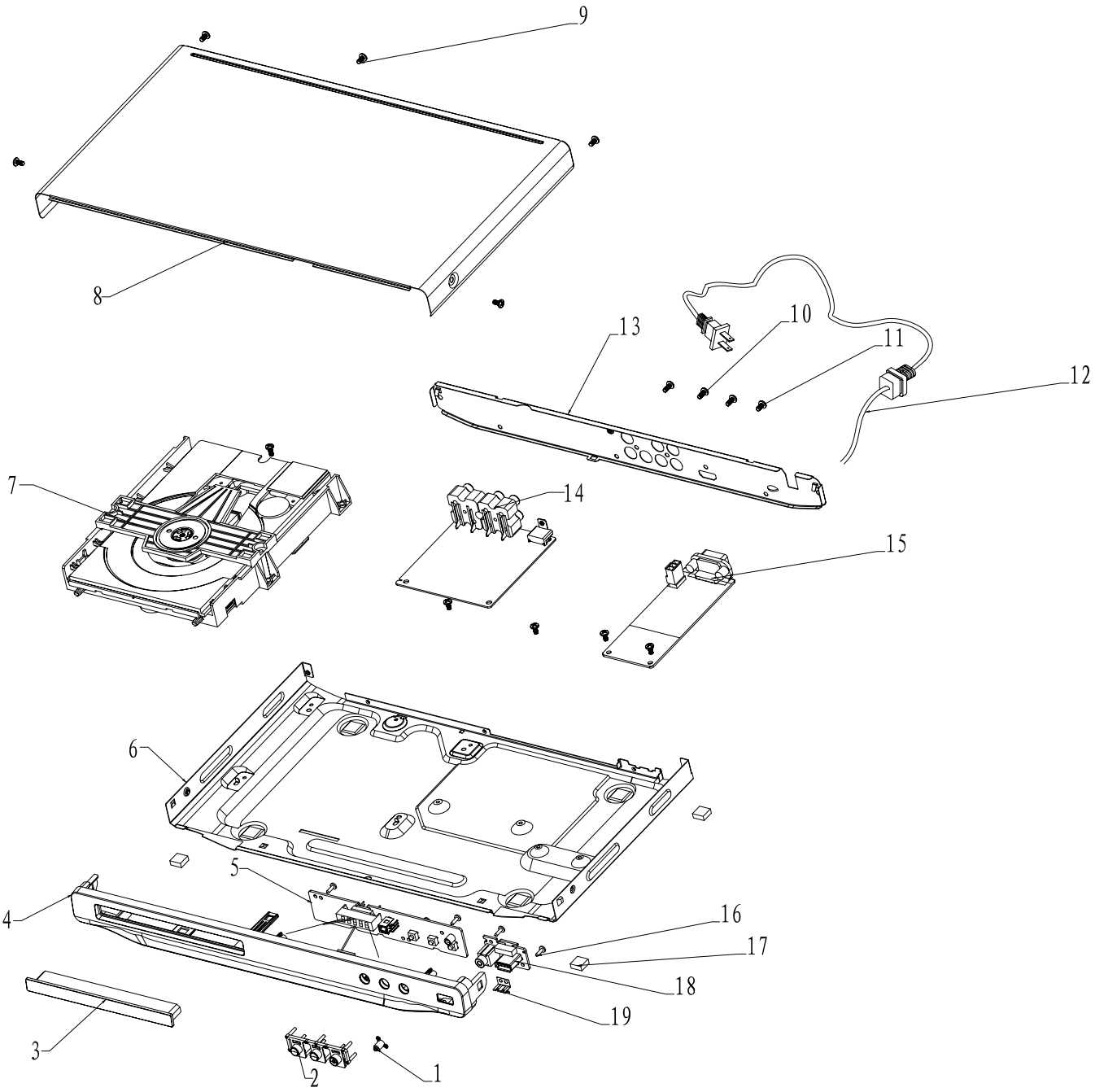
Exploded view for DVP3880K(X)/79/77:



This is general mechanical exploded view for DVP3880KX/77/78.Please refer to the model set for the detailed information.

ASSY1 includes components :1,2,4

Exploded view for DVP3880K/93:



This is general mechanical exploded view for DVP3880/93.Please refer to the model set for the detailed information.
ASSY includes components:1,2,4.

Revision List

Version 1.0

* Initial Release for DVP3880K/55

Version 1.1

*Add DVP3880K/79/98

Version 1.2

*Add DVP3880K/93

Version 1.3

*Add DVP3880KX/77